

F
621
.C55
1912

DODGE'S
GEOGRAPHY
OF
IOWA



CLIFFORD



Rand M^cNally & Co.

910.7
C61

LIBRARY

Connecticut State College

Vol. 29853
Class 910.7 C61
Cost R. E. Dodge Library
Date April 27 1933

BOOK 910.7.C61 c.1
CLIFFORD W. DODGES GEOGRAPHY OF
IOWA



3 9153 00206502 9

This Book may be kept out

TWO WEEKS

only and is subject to a fine of
TWO CENTS a day thereafter.
It will be due on the day indicated
below.

F
721
185
1912

DODGE'S GEOGRAPHY OF IOWA

By

W. N. CLIFFORD

Superintendent of Schools, Council Bluffs, Iowa

Part I

IOWA AS A WHOLE

Part II

THE GROWTH AND DEVELOPMENT OF CITIES

Part III

STATISTICS AND AIDS TO TEACHERS



CHICAGO NEW YORK LONDON
RAND, McNALLY & COMPANY

Dodge's Geographical Series

By RICHARD ELWOOD DODGE

Professor of Geography, Teachers College, Columbia University, New York City

Dodge's Two-Book Series of Geography

DODGE'S ELEMENTARY GEOGRAPHY . . . \$.65

Special Method: Causal Relations treated by induction. Reasoning from consequences to causes.

PART I—HOME GEOGRAPHY

Central Thought: The relation of the individual pupil to all parts of his country, showing the interdependence of people commercially and industrially.

PART II—WORLD RELATIONS AND THE CONTINENTS

Central Thought: The relations of the individual pupil to the world as a whole, showing the interdependence of nations commercially and industrially, and placing special emphasis on the lives and occupations of the people.

DODGE'S ADVANCED GEOGRAPHY . . . \$1.20

Special Method: Causal Relations treated by deduction. Reasoning from causes to consequences.

PART I—THE PRINCIPLES OF GEOGRAPHY

Central Thought: The dependence of life and industry on physical environment.

PART II—COMPARATIVE GEOGRAPHY OF THE CONTINENTS

Central Thought: Commerce and industry as well as political divisions the outgrowth of physical conditions, the reasons therefor, and comparisons of these and other points in the various countries.

Dodge's Geography by Grades

Book One. HOME GEOGRAPHY AND WORLD RELATIONS . . . \$.35

PART I—HOME GEOGRAPHY

Central Thought: The relation of the individual pupil to all parts of his country, showing the interdependence of people commercially and industrially.

PART II—WORLD RELATIONS

Central Thought: The relation of the individual pupil to the world as a whole, showing the interdependence of nations commercially and industrially.

Book Two. ELEMENTS OF CONTINENTAL GEOGRAPHY . . . \$.50

Special emphasis on the lives and occupations of people.

Special Method Books One and Two: Causal Relations treated by induction. Reasoning from consequences to causes.

Book Three. PRINCIPLES OF GEOGRAPHY AND NORTH AMERICA . . . \$.75

Central Thought: The dependence of life and industry on physical environment.

Book Four. COMPARATIVE GEOGRAPHY OF THE CONTINENTS . . . \$.70

Central Thought: Commerce and industry as well as political divisions the outgrowth of physical conditions, the reasons therefor, and comparisons of these and other points in the various countries.

Special Method Books Three and Four: Causal Relations treated by deduction. Reasoning from causes to consequences.

GENERAL CRITICS FOR BOTH SERIES

F. PAUL GOODE, Assistant Professor of Geography, the University of Chicago, and
ELLEN C. SEMPLE, author of "American History and Its Geographic Conditions," Louisville, Ky.

SPECIAL CRITICS FOR THE ELEMENTARY GEOGRAPHY AND BOOKS I. AND II. BY GRADES

AMY SCHÜSSLER, Principal of Speyer School, Teachers College, New York, and
ANNA F. STONE, Principal of Grammar School No. 10, Binghamton, N. Y.

SPECIAL CRITICS FOR THE ADVANCED GEOGRAPHY AND BOOKS III. AND IV. BY GRADES

ELIZABETH SMITH, Department of Geography, the Chicago Normal School, and
CAROLINE W. HOTCHKISS, Seventh Grade, Horace Mann School, Teachers College, New York.

Copyright, 1907

By RAND, McNALLY & Co.

Revised, 1912

The Rand-McNally Press

Chicago

THE INTRODUCTION

29853

HOME Geography is usually the first work to be taken up in any study of geography because beginning students need to know first the geography of the locality in which they live, in which they are most interested, and with which they are most familiar from personal experience. The results gained from a study of the region they can see gives them the ability to understand remote regions that can only be pictured or described to them. Because our own home locality is of most interest to us is also a reason why we need to know it better than we need to know any other region of the world. Hence at some time during the school course it is most valuable to make a careful study of the state or group of states in which we live that we may have a better understanding of the geography about us than we can get from the necessarily brief accounts given in a text-book of geography.

In a text-book of geography we study the relation of one state or group of states to the whole country of which our home region is a part, and our commercial relations to the world as a whole. It follows that in such a treatment the characteristics that distinguish our own home regions must largely be lost to sight in the consideration of the great features that distinguish the country as a whole

In a special text-book devoted to one state or group of states we can learn more about our own region, its important surface features, its climate, the occupations of its people, its products, its local commerce, its history, its chief cities, and many other features of great interest to us. Hence we need to make a special study of our home locality after we have studied the larger region of which it is an important part. A local geography is not only valuable for study in school that we may know well the region about us, but it is valuable also as a reference volume to which we can refer for facts about our own state in our homes whenever in our reading or conversation some question arises concerning our own state which needs to be answered at once.

In this text-book the surface features, the climate, the soil and other natural resources which determine the occupations of the people are studied first because they are the large features which determine the distribution and success of industries. One of the great lessons the student learns in geography is Man's absolute dependence upon Nature for his existence. In Iowa, as in other regions, topography and climate pointed out the path of development that communities must follow in order to make sure their existence within its borders. In the pages that follow, the student finds traced the fundamental conditions that have moulded Iowa life. After these come the historical events that are landmarks in the growth of the state, and then the study of the industrial and commercial features is taken up. To these, which explain the reasons for the development and growth of the larger cities, and which show us why our own region is important to the country as a whole, careful attention has been given.

Certain facts like the distribution and character of educational institutions, the distribution of congressional districts, and the form of government in the region are included, because our knowledge of our own locality would be incomplete without them. These fittingly illustrate the political unity that binds together the interests of all the individuals who form the body-politic which we call the state.

That this book may prove especially valuable as a reference work which may properly be made a part of the family library for constant consultation on many points, carefully prepared diagrams, tables of statistics, and references to further reading have been included.

RICHARD ELWOOD DODGE.

THE TABLE OF CONTENTS

<i>The Introduction</i>	PAGE	3
-----------------------------------	------	---

PART I. IOWA AS A WHOLE

	PAGE		PAGE
Position and Size	1	History	13
Surface and Drainage	1	Sac and Fox Indians	14
Soil	6	Amana Colony	14
Climate	7	Education	15
Vegetation	8	State Institutions	16
Agriculture and Stock Raising	9	State Charities	16
Mineral Resources	10	Reformatory and Penal Institutions	17
Manufacturing	11	Government	17
Commerce	13		

PART II. THE GROWTH AND DEVELOPMENT OF CITIES

	PAGE		PAGE
Gain in Population	19	Principal Cities of Iowa	19

PART III. STATISTICS AND AIDS TO TEACHERS

	PAGE		PAGE
Statistics of the State of Iowa by Counties, Federal Census 1900, State Census 1905	vii	Annual Coal Production of Iowa, by Counties (in Short Tons), 1808-1904	x
State or Country of Birth of the Population of the State of Iowa, State Census 1905	viii	Counties Shipping More than 1,000,000 Pounds (Net) of Butter in the Years Ending September 30, 1904 and 1905	x
Population of Iowa at Each Federal Census	viii	Value of Agricultural Products of Iowa, Relative Rank of State in Production, and Leading County, Federal Census 1900	x
Population of Leading Cities and Towns, Federal Census 1900, State Census 1905	viii	State and Territorial Governors of Iowa from 1838 to 1906	xi
Leading Manufactures of the State of Iowa, State Census 1905	ix	Events in the Early Annals of Iowa	xi
Principal Manufacturing Cities of Iowa and Facts about their Industrial Plants, Federal Census 1900, State Census 1905	ix	Derivation of Some Iowa Geographical Names	xii
Value of Iowa Mineral Products, 1897 to 1904	ix	Suggestive Questions to Accompany the Geography of Iowa	xiii
Value of Live Stock Owned in Iowa, Rank of State, and Leading County, Federal Census 1900	x	Suggestions for Collateral Reading	xv
		The Index	xvi

A LIST OF THE MAPS AND DIAGRAMS

	PAGE		PAGE
A Political Map of Iowa	2-3	The Density of Population per Square Mile in Iowa	19
A Relief Map of Iowa	4	The Density of Urban Population in Iowa, Census of 1900	19
A Physical Map of Iowa	5	Proportion of Native Born Population in Iowa, Census of 1900	viii
A Soil Map of Iowa, Showing the Glacial Drift Deposited	6	Proportion of Native to Foreign Born Population, State of Iowa, Census of 1905	viii
The Mean Annual Rainfall of Iowa	7	Proportion of Foreign Born Population of Each Leading Nationality, Census of 1900	viii
The Annual Rainfall at Dubuque from 1890 to 1904	7	Growth of Manufacturing Industries, as Shown by Value of Products, in Millions of Dollars	ix
The Annual Rainfall at Sioux City, from 1890 to 1904	7	Proportion of Persons Engaged in Each Class of Occupation, Census of 1900	ix
The Value of Farm Products per Square Mile	8	Annual Value of All Mineral Products for Eight Years, 1897-1904	x
The Production of Hay and Forage per Square Mile	8	Growth of the Coal Industry from 1860 to 1900, Shown by Production in Millions of Tons Every Ten Years	x
The Yield of Corn per Square Mile	9	A Map Showing the Earliest Explorations and Settlements in Iowa	xi
The Yield of Wheat per Square Mile	10	A Map Showing the Accession of Territory from Indians	xi
The Yield of Oats per Square Mile	10		
The Number of Hogs per Square Mile	11		
The Number of Neat Cattle per Square Mile	12		
Value of Dairy Products by Counties in 1903	12		
The Coal Fields of Iowa and the Production of Coal by Counties	14		
The Leading Educational Institutions of Iowa	16		
The Congressional Districts of Iowa, 1904	18		

A LIST OF THE ILLUSTRATIONS

	PAGE		PAGE
Scene on a Stock Farm in Story County	1	A Steamboat on the Mississippi River	15
An Iowa Cornfield after the Cutting	1	Scene in a Pearl Button Factory at Muscatine	15
The Forest-clad Palisades of Cedar River	4	Liberal Arts Building, State University of Iowa, Iowa City	16
The Iowa River, near Iowa City	4	Iowa State Normal School, Cedar Falls	17
Spirit Lake, the Largest Body of Water in Iowa	5	Central Building, Iowa State College of Agriculture and Mechanic Arts, Ames	17
Okoboji Lake	5	State Soldiers' Home, Marshalltown	17
A Typical Farm Scene in Benton County	6	State Capitol, Des Moines	18
Cutting and Hauling Hay near Ottumwa	8	Campññile, Agricultural College, Ames	18
Cutting Corn in Linn County	9	Bluffs at Dubuque	18
Reaping One of the Great Wheat Fields in Lyon County	9	The Iowa Soldiers' Orphans' Home at Davenport	20
A Field after Reaping and Shocking in the Great Oat District of Benton County	10	Council Bluffs on the Western Border of Iowa	20
Feeding Time on a Marshall County Farm	11	A Bird's-eye View of the City of Dubuque	21
Oats Stacked Ready for Threshing	11	Monument to Julien Dubuque, at the City which Bears His Name	21
An Orchard Scene in Southern Iowa	11	One of the Important Slaughtering and Meat-packing Establishments of the Middle West, at Sioux City	22
Sheep Feeding in a Farm Yard in Wright County	12	Okoboji Monument, Commemorating the Indian Uprising of 1857	24
Section of Upper Coal Measures, Montgomery County	13	Bridge over the Mississippi River at Davenport	24
Quarrying Stone near Stone City in Jones County	13	A Typical Scene in an Iowa Lumber Yard	24
Deposits of Shale Clays on Gray Creek in Monroe County	13	Black Hawk, a Famous Chief	xii
Miners Working in the Interior of a Mine, Appanoose County	14	General Zebulon Montgomery Pike	xi
A Typical Mining Scene near Oskaloosa	14	Jonathan Carver	xiii
The Great Cereal Mills at Cedar Rapids	15		



A VIEW OF THE IOWA RIVER, NEAR IOWA CITY.

THE GEOGRAPHY OF IOWA

By W. N. CLIFFORD, *Superintendent of Schools, Council Bluffs, Iowa.*

Copyright, 1906, by Hand, McNally & Co.

I. IOWA AS A WHOLE

Position. Iowa is almost equally distant

from the Atlantic and the Pacific oceans and lies about midway between the north pole and the equator. East, in the same latitude, are Chicago, Milwaukee, Detroit, Cleveland, New York, Boston, Madrid, and Constantinople; to the west are Omaha, Salt Lake City, and Vladivostok. (Adv. Geog., Figs. 161 and 192.)

Size. Iowa is rectangular in shape. It is about 300 miles long and 200 broad, and has an area of 56,147 square miles, of which 561 are water. Wisconsin, with 56,066 square miles, is often called its "twin state." (Fig. 3.)

Surface and Drainage. The highest point in Iowa is Ocheydan Mound, Osceola County, 1,651 feet above the sea level;

the lowest point, about 450 feet above sea level, is at the mouth of the Des Moines River in the southeastern corner of Lee County. The average elevation of the state is about 1,100 feet. (Fig. 8.)

Although Iowa is called a prairie state, her prairies are not so monotonously level as are those of the states farther east. Much of the northern part is gently roll-

ing (Adv. Geog., Fig. 261), while in the south there are hills and valleys with large tracts of woodland. Along the Mississippi and Missouri rivers are bluffs from 200 to 300 feet in height, and bordering the Cedar are vertical palisades reaching upward nearly 150 feet. (Fig. 5.) In the northeastern corner of the state along the Mississippi River these bluffs are rocky, with bold, irregular outlines, making that section of



FIG. 1. Scene on a stock farm, in Story County, where high-grade cattle are bred.

ing (Adv. Geog., Fig. 261), while in the south there are hills and valleys with large tracts of woodland. Along the Mississippi and Missouri rivers are bluffs from 200 to 300 feet in height, and bordering the Cedar are vertical palisades reaching upward nearly 150 feet. (Fig. 5.) In the northeastern corner of the state along the Mississippi River these bluffs are rocky, with bold, irregular outlines, making that section of



FIG. 2. An Iowa cornfield after the cutting. Here the stalks have been formed into shocks to be used later as fodder.

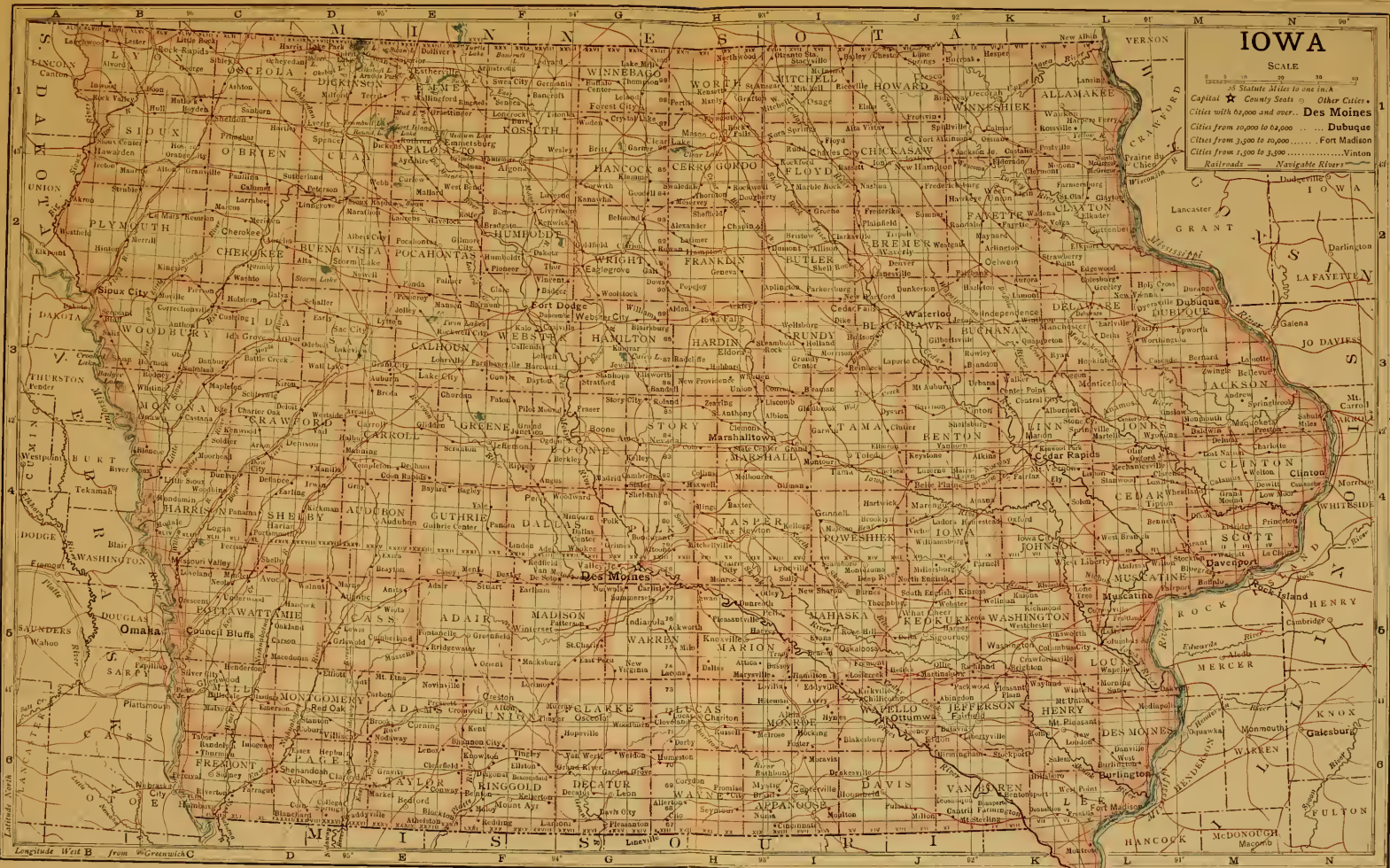


FIG. 3. A political map of Iowa

considerable scenic interest. (Fig. 48.)

The eastern and western boundaries of Iowa are formed by rivers. Into these streams flow all the rivers of the state. Parallel to the Missouri River, and about sixty miles east of it, is

a divide extending from Spirit Lake to the southern boundary of the state. (Fig. 8.) West of this divide, the streams flow into the Missouri; east of it, into the Mississippi. The eastern drainage basin includes more than two-thirds of the state. (Fig. 4.)

The river valleys of the eastern portion of the state are very beautiful. (Fig. 6.) Their flood plains vary from one to ten miles in width and are bordered by picturesque cliffs and bluffs. The beds of the rivers are of solid rock, gravel, or sand. Hence their waters are clear. Since they drain

a greater surface than the rivers of the Missouri slope, they are larger and longer and afford better water power. The Des Moines River, 500 miles long, is the largest river within the state. Other important rivers

which flow into the Mississippi, draining the eastern slope of Iowa, are the Upper Iowa, Turkey, Maquoketa, Wapsipinicon, Cedar, Iowa, and Skunk.

On the western slope the soil deposit is very deep and the rock surface is found only at a depth of 200 feet or more. For years the rivers which flow into the Missouri have been cutting channels through this porous soil. Their banks, therefore, rise precipitously from the water. The largest of these rivers are the Big Sioux, Floyd, Little Sioux, Boyer, and the Nishnabotna.

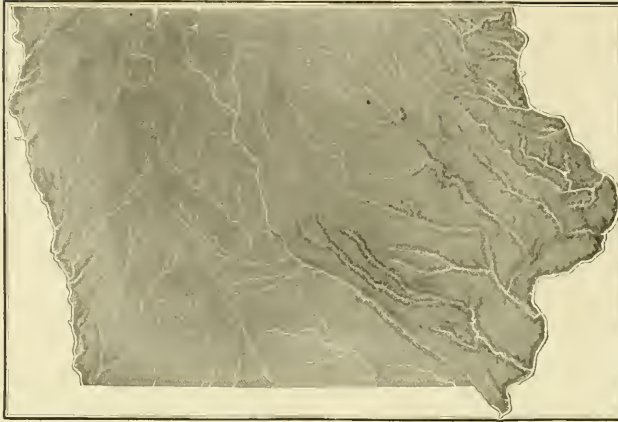


FIG. 4. A relief map of Iowa.

Copyright, 1905, by East, Rivalley & Company



FIG. 5. The forest-clad palisades of Cedar River. These bluffs are famous for their scenic beauty.



FIG. 6. The Iowa River, near Iowa City. A characteristic river scene in eastern Iowa.



FIG. 7. Spirit Lake, the largest body of water in Iowa. It is a well-known summer resort.

In the early days settlements were made in the river valleys, for here the trees grew. Many of these pioneer settlements have grown into thriving cities and towns, the rivers supplying city water, power for electric-

light plants and factories, and facilities for shipping lumber. Among these early settlements were Dubuque, Keokuk, Fort Madison, Burlington, Council Bluffs, Des Moines, and Iowa City.

There is no large body of water in Iowa, but numerous small lakes occur, many of them notable for their great beauty. In northern Iowa, belonging to the Minnesota lake system, are Spirit Lake, Lake Okoboji, Silver Lake, and Swan Lake. (Figs. 7 and 9.) These are called *drift lakes* because they were formed during the glacial epoch. Of these Spirit Lake is the largest and Okoboji is the most

beautiful and, as a summer resort, the most popular. Okoboji is six miles long and two and one-half miles wide. The water is clear, the beach sandy, and the fish are abundant. Fine hotels and cottages fringe its banks and to these come every summer hundreds of tourists and sportsmen.

Bodies of water such as are found in Sac, Wright, and other counties called *walled lakes* are so named because of the embankments of rocks along their shores. These walls or embankments were gradually built up by the action of the waves dashing

against the shore, together with the expansive force of the ice. They are remarkable because they look like walls built by man. In some places the walls are ten feet high and many feet across. Nearly all of the glacial lakes are inclosed by

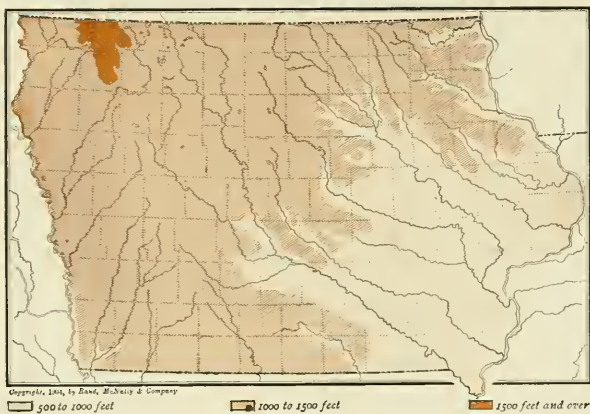


FIG. 8. A physical map of Iowa.



FIG. 9. Okoboji Lake. Notice the line of boulders which has been pushed ashore by the ice.

such embankments. With the exception of the *alluvial* or oxbow lakes (Adv. Geog., Fig. 49) scattered throughout the flood plains of the state, which are really only large ponds left when the rivers changed their courses, all the lakes of Iowa are of glacial origin.

Soil. There is a greater acreage of tillable soil in Iowa than in any other state in the Union; 95 per cent of all the land in the state is capable of cultivation, with the result that the total value of the soil is as great as that of all the gold and silver mines in the world. Much of this soil was brought by glaciers from the far north, and as it was mingled with the limestones and shales of British America it became a kind of rock flour. (Adv. Geog., Fig. 180.) This was deposited over a large part of Iowa, and is called *drift*. (Fig. 11.) For centuries decayed vegetable matter was mixed with the drift, darkening its color. In many places this soil is hundreds of

feet deep, but that which is brought up in digging wells is as rich as that found on the surface. As the soil is porous, water seeps through it readily. It is almost free from gravel and rocks, consequently the most improved farm

machinery can be used to the greatest advantage.

Ages ago winds blowing over the dry plains of the Dakotas and of Nebraska carried quantities of fine dust, which was deposited along the margins of the drift areas in the western and southern parts of Iowa. Slowly but surely, soil of from 100 to 200 feet in depth was formed. This soil, called *loess*, is of wonderful fertility and is much like the soil along the banks of the Rhine. (Fig. 11.) It is free from gravel and the plow

cuts it like cheese, yet it resists weathering, and the vertical faces left by railroad or other excavations will stand for years without washing. It absorbs water like a sponge and holds it during a season of drought. Wherever loess is found in Iowa, fine orchards and vineyards abound. (Fig. 10.)

The soil of the valleys and flood plains of the rivers consists of waste carried down

by the rivers from the higher levels. This soil, known as *alluvium*, is formed of coarser materials than drift or loess and is the richest in the state. The Missouri lowlands of the western slope constitute the most important tract.



FIG. 10. A typical farm scene in Benton County. This lies in the loess region.

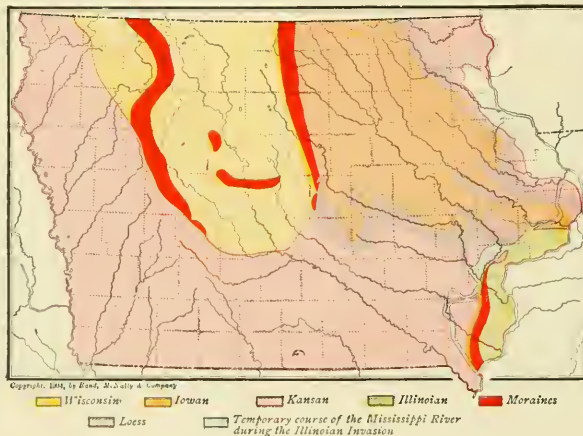


FIG. 11. A soil map of Iowa, showing the glacial drift deposited.

Climate.

Situated too far inland to be influenced by winds directly from the ocean, Iowa has a strictly continental climate (see Adv. Geog. p. 50); but it is one of the best watered and most productive continental regions

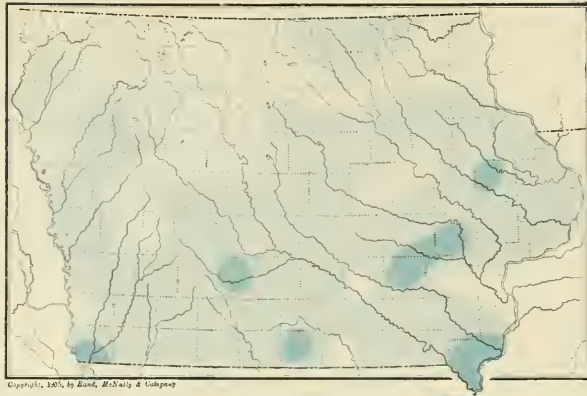


FIG. 12. The mean annual rainfall of Iowa.

in the world. Since the time of settlement there has not been a total failure of crops. There have been some poor seasons, but the poorest would seem abundance in a less favored section. The most severe drought in the past fifty years occurred in 1894; yet in that year Iowa produced 256,000,000 bushels of cereals. (Figs. 13 and 14.)

The most important feature of the climate of Iowa, from an agricultural standpoint, is that the time of the greatest rainfall is in the growing season, or from April to September, inclusive. The winters are comparatively dry, having only 10 per cent of the yearly rainfall. The annual rainfall is about thirty-five inches; in regions where there is less than twenty inches irrigation is necessary. (Fig. 12.) In climatic position Iowa is most fortunate; while situ-

ated north of the excessive rainfall of the Gulf States where the soil is washed and leached so much that fertilization is necessary, it is yet within a region that has sufficient moisture to enable it to be one of the greatest

cereal-producing regions of the world.

In Iowa the winds from the west and northwest are cool and dry, while those from the east and south are warm and bring rain. There is a wide range of temperature between summer and winter. One hundred degrees is quite common in summer and 40 degrees below zero often is recorded in the northern part of the state in winter; yet these temperatures are well suited to the crops. Corn requires from 90 to 130 days to mature. As it is usually planted in May, hot days in July and August are necessary for its development. On the other hand, severe frosts, penetrating to a great depth, pulverize the soil so that rain and warmth affect it more readily. The cold of winter is mitigated by the dryness of the air during that season, and the heat

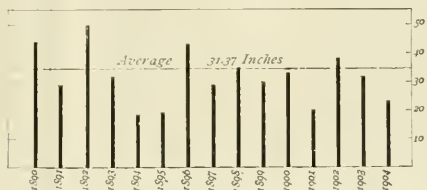


FIG. 13. The annual rainfall at Dubuque, from 1890 to 1904.

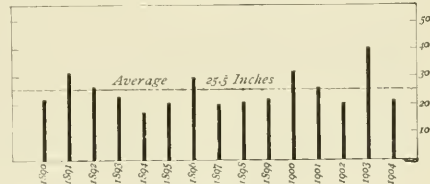


FIG. 14. The annual rainfall at Sioux City, from 1890 to 1904.

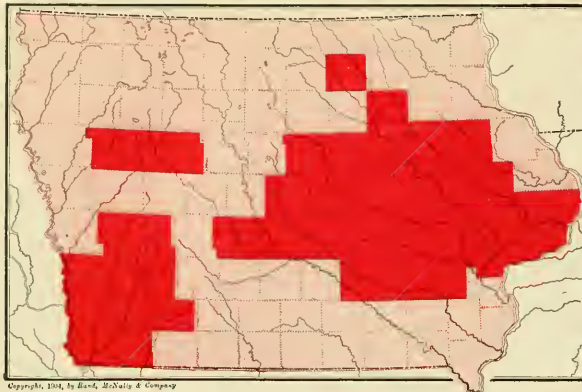


FIG. 15. *The value of farm products per square mile.*

of summer is made endurable by the almost constant breezes.

Vegetation.

When the white settlers came to Iowa fully seven-eighths of the prairies were treeless. This condition now is thought to have been caused by prairie fires, but the pioneers supposed that the soil was not adapted to the growth of trees. However, as soon as extensive tracts were settled, wind-breaks were planted to protect houses and farm buildings from the wintry blasts, and farmers found that nearly all deciduous trees would thrive. In later years part of a farmer's taxes were remitted if he set out a certain area in trees, and groves of cottonwood, willow, and box-elder



FIG. 16. *Cutting and hauling hay near Ottumwa.*

soon rewarded the farmer's efforts. An extensive region around Storm Lake which pioneers found perfectly bare is now covered with one of the finest woodland groves in the country. In traveling over Iowa one will find elm, oak, linden, and maple trees in large numbers.

From the earliest days the prairies of Iowa have afforded fine pasturage. Native grasses still are to be found and large crops of blue grass, timothy, and clover are now

grown throughout the state. Wild flowers such as golden-rod, asters, wild roses, and honey-suckle everywhere add to the beauty of meadow and woodland.

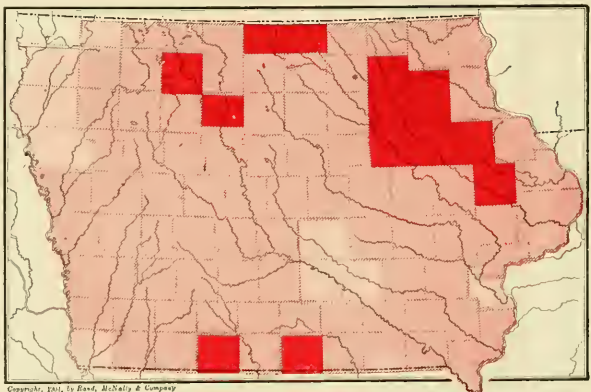


FIG. 17. *The production of hay and forage per square mile.*



FIG. 18. *Cutting corn in Linn County. Here pumpkins have been grown between the corn rows.*

Agriculture and Stock Raising. For the

production of great crops the prime factors required are good soil and a favorable climate. Iowa has a large acreage of rich soil, an abundant rainfall, and a climate splendidly adapted to the growth of grains; hence it is well

fitted to take a foremost place as an agricultural state. Practically one-half the population is engaged in farming. (Figs. 2, 16, 18, 20, 22, and 26.) Hay, corn, oats, flax, barley, rye, and potatoes are raised in great quantities. (Adv. Geog., Figs. 259, 262, and 270.) Iowa is one of the leading states in the total value of its grains and general agricultural products, also in the total value of its live stock. (Figs. 15, 17,

19, 21, and 23.) In 1902 and 1903 Iowa ranked second in the production of hay, corn, and oats. It stands fifth in flax. (Adv. Geog., Figs. 260, 263, and 271.)

With so great a yield of hay, corn, and oats, it naturally follows that the farmers have fine live stock. (Figs. 1 and 24.) Of its fine horses Iowa may well be proud, for although in 1903 Texas produced more horses, Iowa's horses sold for a greater total. (Adv. Geog., Fig. 267.) In the same year Iowa ranked first in the number of hogs raised. (Fig. 25, and Adv. Geog., Fig. 269.) Beef cattle are raised in large numbers, and fine herds of milch cows

make Iowa famous for its dairy products. (Figs. 28 and 30, and Adv. Geog., Figs. 224, 225, 250, and 251.) Sheep are herded in large numbers in several sections. (Fig. 29.) The light, dry, well-drained soil helps to make poultry raising an industry of much importance.



FIG. 19. *The yield of corn per square mile.*



FIG. 20. *Reaping one of the great wheat fields in Lyon County.*

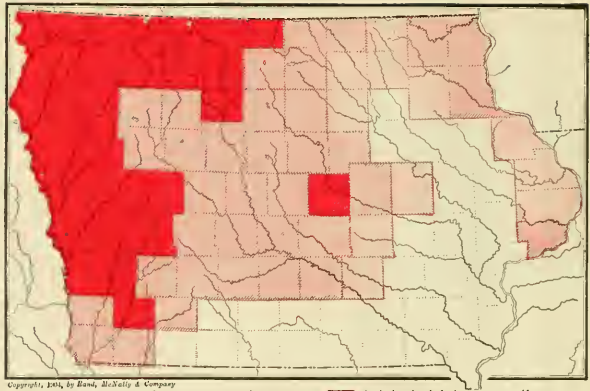
Nearly all cities and large towns have truck gardens near by to supply their markets. Apples, grapes, cherries, and small fruits are raised in the southern part of the state. (Fig. 27, and Adv. Geog., Fig. 294.)

Mineral Resources. With rich soil and abundant rainfall, Iowa would have become a wealthy state even though it had no minerals; but it is still more favored. Besides the fertile loam, the continuous sunshine, and the abundant moisture so necessary to the growth of cereals the state has valuable mineral wealth.

The most important mineral is bituminous coal. About 20,000 square miles of Iowa's



FIG. 22. A field after reaping and shocking in the great oat district of Benton County.



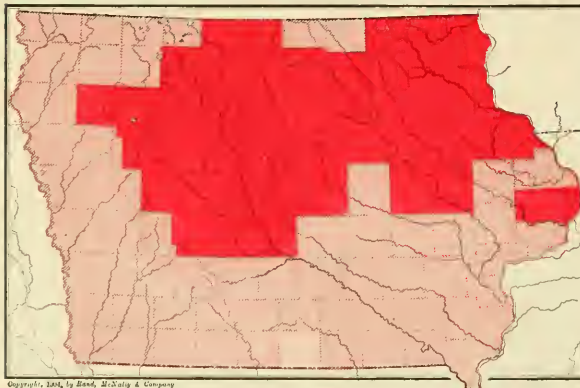
Copied, 1903, by Bank, Nichols & Company
 Less than 64 bushels per square mile
 64 to 100 bushels per square mile
 100 to 160 bushels per square mile
 160 to 240 bushels per square mile
 240 to 300 bushels per square mile

FIG. 21. The yield of wheat per square mile.

prairies are underlaid by this valuable fuel. (Fig. 31, and Adv. Geog., Fig. 221.) The mines along the Des Moines River are the most

worked. The total output of coal for 1903 was 6,419,811 tons. In 1902 Iowa ranked ninth in tonnage and seventh in value of coal mined.

One of the finest gypsum deposits in the United States is near Fort Dodge, in Webster County, the deposits varying from ten to twenty-five feet in thickness. In the last few years the use of gypsum has increased greatly. It is now employed in making plaster for stucco, in the manufacture of calcimine, as a basis for paint, and as a fertilizer. There is a large



Copied, 1904, by Bank, Nichols & Company
 100 To 650 bushels per square mile
 650 to 3,000 bushels per square mile
 3,000 bushels per square mile and over

FIG. 23. The yield of oats per square mile.

number of mills in operation at Fort Dodge, where the fine railroad facilities give excellent prospects for a still more extensive output of gypsum products. In 1903 Iowa ranked third in the quantity of gypsum produced.

Deposits of clay suitable for use in the manufacture of paving bricks, tile, and pottery are widely and abundantly distributed throughout the state. The making of brick is becoming an industry of great and growing importance. In 1902 Iowa ranked eighth in the value of clay products. *Shale* is plentiful and widely distributed. (Fig. 33.) It is used for manufacturing vitrified paving and building brick.



FIG. 24. Feeding time on a Marshall County farm.

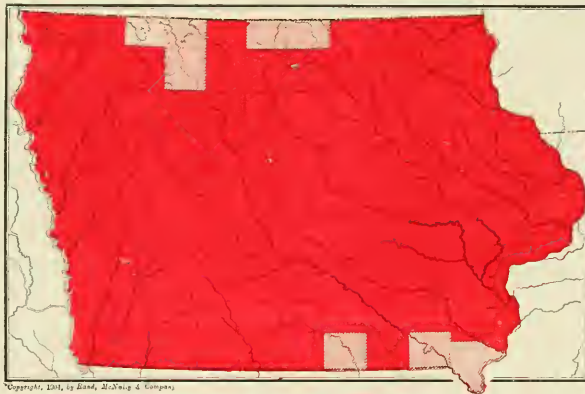
Various kinds of *limestone* adapted to building purposes, road making, and the manufacture of concrete and lime are found in inexhaustible quantities and quarried in several parts of the state. (Fig. 32.)

Lead and zinc are mined near Dubuque and some iron is

found in Allamakee County.

Manufacturing.

So long as the early settlers were richly rewarded for tilling the soil they gave little attention to manufacturing. Later, when the farm lands were all taken up and the population had increased, the great possibilities for various kinds of manufacturing were



Copyright, 1911, by Esch, McHenry & Company.
 □ 25 to 50 head per square mile □ 50 to 100 head per square mile
 ■ 100 head per square mile and over

FIG. 25. The number of hogs per square mile.

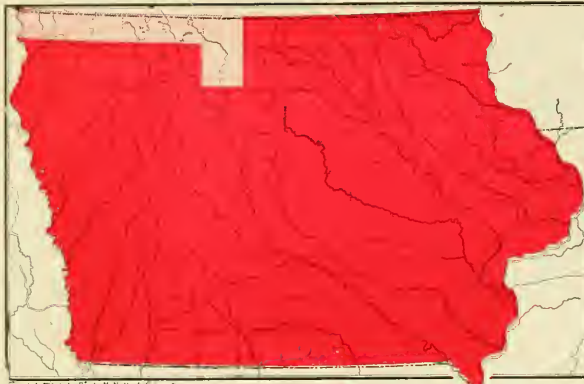
discovered. Water power was abundant,



FIG. 26. Oats stacked ready for threshing.



FIG. 27. An orchard scene in southern Iowa.



Copyright, 1903, by Bank, McHenry & Company
 50 to 75 head per square mile 75 head per square mile and over
 FIG. 28. The number of neat cattle per square mile

coal underlay immense areas (Fig. 35), and there were splendid shipping facilities. Supplies of gypsum, clay, lead, and other raw materials were found within the state.

It followed naturally, therefore, that people began to establish factories of various kinds. Although all of the industrial enterprises are young, yet in the year 1900 the value of manufactured products was \$164,617,877.

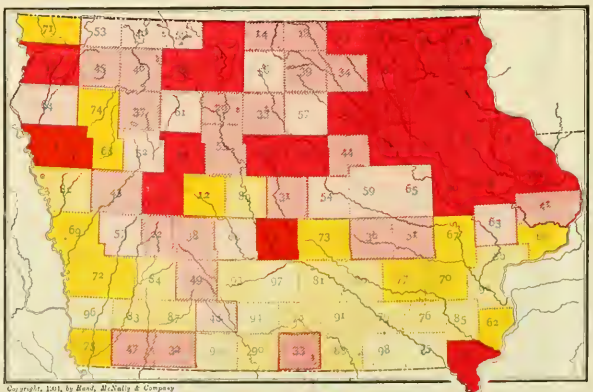
Without her immense coal areas, Iowa's prospects of becoming a great manufacturing state would be small. As coal is found in thirty counties it can be carried easily over the state at small cost, thus giving impetus everywhere to manufacturing. (Fig. 35.)



FIG. 29. Sheep feeding in a farm yard in Wright County.

The principal manufactures in the order of their value and the leading centers of their industries in 1900 were: meat products (Sioux City) (Fig. 55), factory made butter, cheese, and condensed milk (Des Moines, Waverly), (Fig. 30), flouring and grist mill products (Sioux City, Des Moines), timber and lumber products including sash, doors, and blinds (Dubuque, Clinton), (Fig. 58), cars and car repairs (Council Bluffs, Des Moines), the products of printing and

publishing (Des Moines, Sioux City), foundry and machine-shop products (Davenport, Burlington), carriages and wagons (Dubuque, Burlington), food products



Copyright, 1903, by Bank, McHenry & Company
 0 to 10,000 lbs. 10,000 to 100,000 lbs. 100,000 to 300,000 lbs. 300,000 to 600,000 lbs.
 600,000 to 1,000,000 lbs. 1,000,000 to 3,000,000 lbs. 3,000,000 to 5,000,000 lbs. 5,000,000 lbs. and over

FIG. 30. Value of dairy products by counties in 1903. The figures denote the rank in production of each county.

(Cedar Rapids), clay products (Des Moines, Sioux City), pearl buttons (Muscatine, Davenport, Clinton). (Fig. 39.) Iowa will remain an agricultural state; but the time is not far distant when it will rank high in manufactures.

Commerce. When a state produces much more than the wants of its people demand, it needs to be situated on great lines of trade, and in this respect Iowa is admirably located. The Mississippi River furnishes an easy route for north-south transportation (Fig. 38), and the eight great railroad lines coming into the state from the East, and meeting at Council Bluffs, provide excellent east-west transportation facilities and help to make this city a general distributing point for the Far West. Iowa's commerce consists chiefly in exporting grain, live stock, and similar commodities and in importing manufactured products. No point in the state is distant more than

thirteen



FIG. 33. Deposits of shale clays on Gray Creek in Monroe County.



FIG. 31. Section of upper coal measures, Montgomery County. Note the intercurring strata of limestone and shales.

miles from a railroad, and but three states in the Union have a greater railroad mileage; the total in 1904 was nearly 10,000 miles. New avenues of trade are being opened constantly by electric lines.

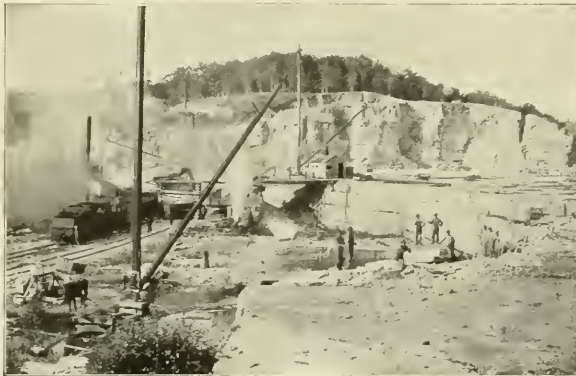


FIG. 32. Quarrying stone near Stone City in Jones County.

The great trunk line railroads crossing the state are the Chicago, Rock Island & Pacific; the Chicago, Burlington & Quincy; the Chicago, Milwaukee & St. Paul; the Chicago Great Western; the Chicago & North-Western, and the Illinois Central. There are numerous branch lines making connections north and south.

History. The present state of Iowa was originally a part of the great territory of Louisiana purchased from France during Jefferson's administration. At different

times it has formed part of the territories of Louisiana, Missouri, Michigan, and Wisconsin. In 1838 it was made a territory by itself, and in 1846, with its present boundaries, Iowa was admitted into

the Union, the first free state in the Louisiana Purchase.

The first white settlement in Iowa was made at Dubuque, about 1788, by Julien Dubuque, an adventurous French Canadian trader who settled among the Indians. Here he opened lead mines, built a smelting furnace, and established a fur-trading post. (Fig. 54.)

At the close of the Black Hawk War in 1832 the United States purchased the land from the Indians, who then settled in Missouri and Nebraska. Soon came the



FIG. 34. Miners working in the interior of a mine, Appanoose County.

white-topped immigrant wagons bringing whole families from New England, Ohio, and other eastern states.

In 1852 another tide of immigration began. Besides large numbers from the east there were Scandi-



FIG. 36. A typical mining scene near Oskaloosa.

navians, Germans, Bohemians, and Irish from Europe. These have proved to be excellent colonizers and good citizens.

The first capital of Iowa was at Iowa City, but as this site was found to be too far east, Des Moines was made the capital in 1857. The state records and papers were transported overland, as there was no railroad. In the same year occurred the Indian massacre at Spirit Lake. (Fig. 36.)

Sac and Fox Indians. During the Black Hawk War some of the Sacs and the Foxes refused to fight against the whites. In derision they were called "Musquakers,"

or deserters. They remained in Tama County where their descendants numbering about 400 still live, occupying a tract of land embracing more than 3,000 acres.

Amana Colony. Among the largest and wealthiest of the communistic

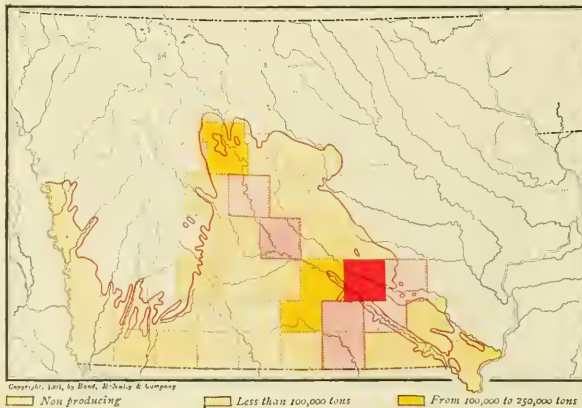


FIG. 35. The coal fields of Iowa and the production of coal by counties.

settlements in the United States is the Amana Colony in Iowa County. The people are Germans, industrious and intelligent, and care little for the pleasures of the world. The colony comprises eight villages and extensive areas of farming and pasture lands, 25,000 acres in all. The land is held in common by the community.

Education. No child born in Iowa, whether he desires to be a scientific farmer, a skilled mechanic, or a professional man, need leave the state to secure his education. Liberal provision has been made for an excellent system of public schools, colleges, and universities by creating a permanent school fund from money secured by the sale of public lands.

In addition to the interest on this fund, money for the support



FIG. 37. *The great cereal mills at Cedar Rapids.*



FIG. 38. *A steamboat on the Mississippi River.*

of the schools is raised by local taxation. In maintaining its public schools Iowa expends annually more than \$10,000,000. Of this amount nearly \$5,000,000 is derived from the permanent school fund.

The public school system is under the direction of a state

superintendent, of county superintendents, city superintendents, and local boards.

Women are permitted to hold any school office in the state. The school age is from five to twenty-one years. Children between the ages of seven and fourteen must attend school, either public or private, for not less than sixteen consecutive school weeks of each year. The total enrollment in the public schools in 1904 was 545,940. There are 345 high schools in the state, enrolling in 1904 30,900 pupils.

The state maintains three important institutions for higher education: The State University at Iowa City (Fig.



FIG. 39. *Scene in a pearl button factory at Muscatine where they are soaking the clam shells in fresh water to make them less brittle.*

THE LEADING EDUCATIONAL INSTITUTIONS OF IOWA.

COLLEGES AND UNIVERSITIES

- 1 Iowa State College of Agriculture and Mechanic Arts, State, Ames.
- 2 Coe College, Presb., Cedar Rapids.
- 3 Charles City College, M. E., Charles City.
- 4 Wartburg College, Luth., Clinton.
- 5 Amity College, Non-Sect., College Springs.
- 6 Lutheran College, Luth., Decorah.
- 7 Des Moines College, Bapt., Des Moines.
- 8 Drake University, Christian, Des Moines.
- 9 St. Joseph's College, R. C., Dubuque.
- 10 Epworth Seminary, M. E., Epworth.

- 11 Parsons College, Presb., Fairfield.
- 12 Upper Iowa University, M. E., Fayette.
- 13 Iowa College, Cong., Grinnell.
- 14 Lenox College, Presb., Hopkinton.
- 15 Simpson College, M. E., Indianola.
- 16 State University of Iowa, State, Iowa City.
- 17 Elksworth College, Non-Sect., Iowa Falls.
- 18 Lutheran College, Luth., Jewell.
- 19 Western Union College, United Evang., Le Mars.
- 20 Iowa Wesleyan University, M. E., Mount Pleasant.
- 21 Cornell College, M. E., Mount Vernon.

- 22 Penn College, Friends, Oskaloosa.
- 23 Central University of Iowa, Bapt., Pella.
- 24 Morningside College, M. E., Sioux City.
- 25 Buena Vista College, Presb., Storm Lake.
- 26 Tabór College, Cong., Tabor.
- 27 Western College, U. B., Toledo.
- 28 Wartburg Seminary, Luth., Waverly.

PUBLIC AND PRIVATE NORMAL SCHOOLS

- 29 Iowa State Normal College, Cedar Falls.
- 30 Highland Park College, Des Moines.
- 31 Western Normal College, Shenandoah.



FIG. 40. Liberal Arts Building State University of Iowa, Iowa City.

40), the State Normal School at Cedar Falls (Fig. 42), and the State College of Agriculture and Mechanic Arts at Ames (Figs. 43 and 46). In addition to the state institutions mentioned, a number of denominational schools, colleges, seminaries, and normal schools supported by endowment or by tuition fees, well distributed over the state, are doing good work for higher education. (Fig. 41.)

State Institutions. The state supports four classes of institutions: Educational, Charitable, Reformatory, and Penal. The three last mentioned are managed by a board of control consisting

of three members who are appointed by the Governor for six years and confirmed by the Senate. Not more than two members of this board may be from the same political party. This board also manages the finances of the State University, the State Normal School, and the Agricultural College.

State Charities. Iowa has been generous in providing for its unfortunate. Among the larger institutions may be mentioned the School for the Deaf at Council Bluffs, the College for the Blind at Vinton, the Institution for the Feeble-minded at Glenwood, the Soldiers' Home at Marshalltown (Fig. 44),

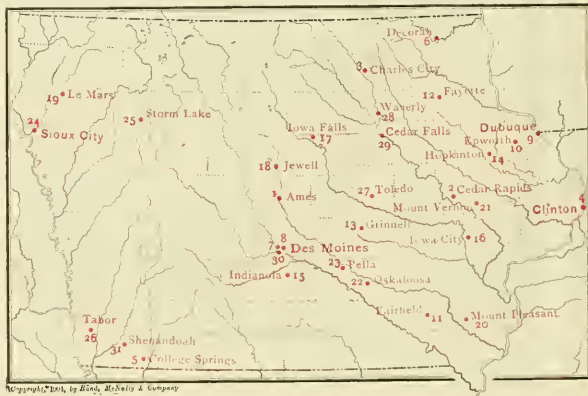


FIG. 41. The leading educational institutions of Iowa.

the Soldiers' Orphans' Home at Davenport (Fig. 51), and hospitals for the Insane at Cherokee, Independence, Mount Pleasant, and Clarinda.

Reformatory and Penal Institutions. The Industrial School for Girls is located at Mitchellville, the Industrial School for Boys at Eldora, and the Reformatory for Females at Anamosa. The State Penitentiaries are two in number and are located at Anamosa and Fort Madison.

Government. Iowa is represented in Congress by two Senators and eleven Representatives, and therefore has thirteen electoral votes. (Fig. 47.) The state government is administered by three departments—the



FIG. 43. *Central Building, Iowa State College of Agriculture and Mechanic Arts, Ames.*

representatives elects one of its own members for speaker.

The officers of the executive department are all elected by the people for two years.

The chief executive is the Governor. The other officers of the state department are the Lieutenant-Governor, the Secretary of State, the Auditor, the Treasurer, the Attorney-General, and the Superintendent of Public Instruction.

Much of the executive business is left to the Executive Council, consisting of the Governor, Secretary of State, Treasurer, and Auditor.

There is a State Board of Control consisting



FIG. 42. *Iowa State Normal School, Cedar Falls.*

Legislative, the Executive, and the Judicial. These departments correspond closely to the great departments into which our national government is divided.

The legislative department is composed of two branches, the Senate and the House of Representatives. The Assembly, as the Senate and the House of Representatives are called, meets at the capitol in Des Moines once in two years. (Fig. 45.) There are fifty Senators and 100 Representatives. The Senators are elected for four years and the Representatives for two years. The presiding officer of the Senate is the Lieutenant-Governor. The House of Repre-



FIG. 44. *State Soldiers' Home, Marshalltown.*



FIG. 45. State Capitol, Des Moines.

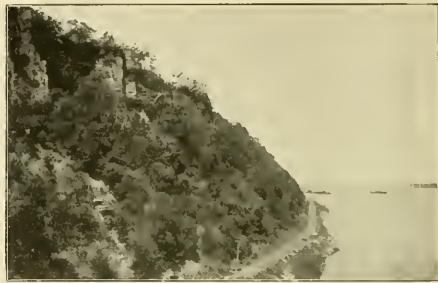


FIG. 48. Bluffs at Dubuque. In the limestone formations in these bluffs lead has long been mined.

of three members appointed by the Governor, with the approval of the Senate. This board supervises the finances of the State University, Agricultural College, and the Normal School, and has complete management of all other state institutions. The state department provides a railway commissioner, dairy commissioner, inspector of mines, state printer, and others.

The judicial department consists of a Supreme Court, District Courts, and supervisor, or mayor's and police courts. The heads of all these courts are elected by the people. The Supreme Court is composed of six judges elected for six years each; and each serves as chief justice during his last year.

Iowa has ninety-nine counties and each county has a District Court. Judges



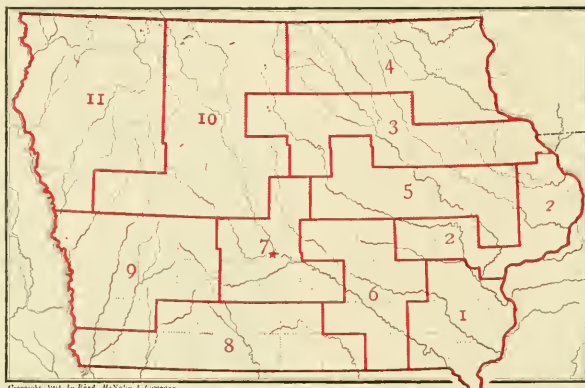
FIG. 46. Campanile, Agricultural College, Ames.

for these courts are elected by the people for four years. Cities having a population of 7,000 or more may establish superior courts. Such courts are found in Council Bluffs, Cedar Rapids, and Keokuk.

The counties are governed by officers elected for two years. They consist of a board of supervisors, an auditor, a clerk of courts, a treasurer, a county attorney, a superintendent of schools, a sheriff, a surveyor, and a coroner.

Generally speaking, the government of cities and incorporated towns is administered by a mayor

and a council composed of aldermen. A few cities are governed by special charters granted in the early days by the general assembly; these are Dubuque, Davenport, Cedar Rapids, Keokuk, and Muscatine.



Copyright, 1904, by Bask, McVety & Company

FIG. 47. The Congressional districts of Iowa, 1904.

II. GROWTH AND DEVELOPMENT OF CITIES

Gain in Population. Iowa ranks among the states in which the city or town population relatively is far out-distanced by the rural. The number of persons living in towns having 4,000 or more inhabitants constitutes a little less than one-fifth of the total population. Three facts may be noted in this connection: (1) that cities, towns, and villages are evenly distributed over the state (Fig. 49); (2) that the total town or urban population relatively is small; (3) that there are no great centers like New York and Chicago. (Fig. 50.)

These conditions in Iowa are due partly to the character of its resources and partly to its physical characteristics. Iowa is a prairie state easily accessible from every side, and everywhere fertile. As a consequence farming population and urban centers serving as outlets for farming districts became evenly distributed. Since the mineral, forest, and water power resources are insufficient to support great mining or manufacturing communities agricultural industries remain dominant, and the rural population retains the lead. Physical conditions have caused trade and manufactures to develop at many points with almost equal advantage, hence no one city has attained metropolitan rank. Usually the larger towns are those which have exceptional transportation facilities, and which distribute and manufacture supplies for vast farming areas. In a few instances the growth of cities has been aided by the presence of coal mines or water power.

The population figures of the cities given herewith are from the state census of 1905:

Atlantic (4,893), the county seat of Cass County, eighty miles southwest of Des Moines, lies in the center of an excellent farming district. Among its industrial enterprises are a corn-canning factory, a planing mill, and wagon works. Adjacent to the town are flourishing nurseries.

Boone (9,500), the county seat of Boone County, is located near the Des Moines River, forty-three miles northwest of Des Moines. Coal is mined in the vicinity. Here are shops of the Chicago

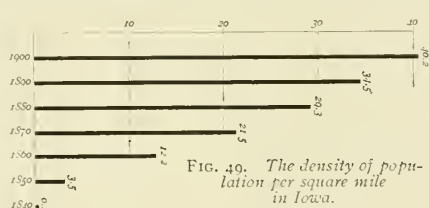


FIG. 49. The density of population per square mile in Iowa.

& North-Western Railway and manufactures of brick, tile, and pottery. It has excellent transportation facilities and ships large quantities of coal.

Burlington (25,318), the county seat of Des Moines County, is well situated

for trade, being located on the banks of the Mississippi and having good railroad connections. Repair shops of the Chicago, Burlington & Quincy Railroad are located here. Among the leading manufactures of the city are lumber and lumber products,

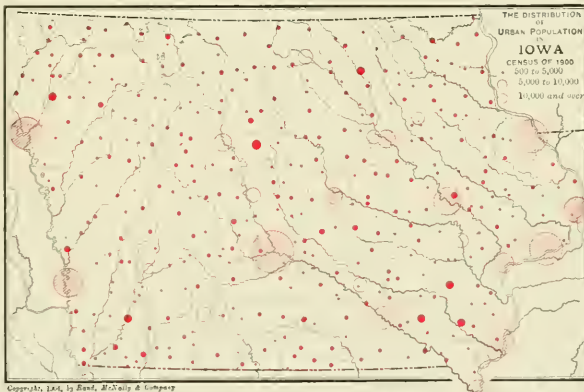


FIG. 50. The density of urban population in Iowa, census of 1900.

engines, agricultural implements, harness, wagons, and pearl buttons.

Cedar Falls (5,329) is in Black Hawk County, ninety-nine miles west of Dubuque and 106 miles northeast of Des Moines. It is pleasantly located on the rapids of Cedar River, which gives it superior water power and makes it a natural manufacturing center. Here are mills for flour, oatmeal, pearl barley, and factories for canned goods, house furnishings, clothing, specialties of various kinds, such as feeders for threshing machines, novelties in hardware, foundry work, and machine shops. It

is the seat of the Iowa State Normal School, noted for its large attendance of students, its extensive course of study designed to meet the needs of all classes of public school teachers, and the unusual financial support given it by the state. (Fig. 42.)

Cedar Rapids (28,759), in Linn County, well located on the Cedar River, is a city of wide streets and pleasant homes. Its water power and excellent railroad connections have made it a manufacturing center. Its cereal mills are the largest in the world (Fig. 37); meat packing, the making of wire fencing, furniture, pumps, flour, and starch are important industries. Coe College is located here.

Centerville (5,967), Appanoose County, has productive coal mines. (Fig. 34.) Among its leading manufactures are machinery, foundry products, flour, wagons, and cement building blocks.

Charles City (4,546), county seat of Floyd County, is well located on the Cedar River, in a fertile agricultural district where market gardening, nurseries, and the raising of live stock afford profitable industrial opportunities to the people. It has excellent railroad service and the river furnishes valuable water power utilized by manufacturing interests. Furniture, bank fixtures,

sash and blinds, butter, cheese, and disk harrows are made here. Building stone is quarried in the vicinity. Here is Charles City College.

Clinton (22,756), the county seat of Clinton County, is a beautiful city

located on the Great Bend of the Mississippi, where three fine bridges span the river. It has excellent facilities for shipping both by water and by rail and is a notable commercial center. The chief manufactures are furniture, wagons, flour, iron and steel goods, locks, boxes, wire cloth, paper, and papier-maché.

Council Bluffs (25,231), the county seat of Pottawattamie County, is picturesquely located on the Missouri River directly opposite Omaha. The river is spanned by several fine steel bridges. The city is the center of a fine live stock, fruit, and grain region, and is one of the most important railroad centers in the West; eight great trunk lines from the East converge here to make connections for the Pacific Coast. Construction and repair shops of several of these railroads are located here. Council Bluffs has an extensive



FIG. 51. *The Iowa Soldiers' Orphans' Home at Davenport.*



FIG. 52. *Council Bluffs, on the western border of Iowa. Beyond is the Missouri River, marking the state's limits.*



FIG. 53. A bird's-eye view of the city of Dubuque.

trade in farming implements, wagons, and carriages, besides a large wholesale trade. Its manufactures include agricultural implements, wagons, machinery, and lumber products. (Fig. 52.)

Creston (8,382), the county seat of Union County, in the center of the famous Blue Grass region of southwestern Iowa, is an important town 103 miles east of Council Bluffs. It has a good trade in agricultural implements and farm machinery, as well as in general merchandise. It is the location of the largest round house and machine shops of the Chicago, Burlington & Quincy Railroad.

Davenport (39,797), the county seat of Scott County, is situated on the Mississippi River opposite Rock Island, Ill., with which it is connected by two railroad bridges and a ferry. (Fig. 57.) The city is surrounded by a rich agricultural and coal-mining region which has aided in its development. It is an important railroad center and ships large quantities of grain and other farm products. The manufactures include lumber and lumber products, agricultural implements, engines, wagons, glucose, flour, clothing, cigars, and buttons. Meat packing is a large industry. The educational institutions of the city are unexcelled.

Des Moines (75,626), the county seat of Polk County and the capital and metropolis of Iowa,

is situated very near the center of the state at the junction of the Des Moines and Raccoon rivers. It has become an important railroad center. Extensive mines of bituminous coal near by provide cheap fuel. The abundance of water and inexpensive coal, and its excellent transportation facilities, invite manufactures. Already there are large factories turning out brick and tile, lumber products, furniture, steam engines, agricultural implements, harness, wagons, patent medicines, starch, flour, cigars, woolens, knit goods, and gloves. It is the leading center of the butter industry in the state. The Capitol is a magnificent building erected at a cost of \$3,000,000. (Fig. 45.) The Court House and Post Office are fine edifices. Des Moines offers unusual educational advantages. In addition to an excellent system of public schools, it has Drake University, Des Moines College, and Highland Park Normal College.

Dubuque (41,941), the county seat of Dubuque County, is situated on the Mississippi River, here crossed by three bridges. Two—one a great railroad bridge—connect it with East Dubuque, Ill., the other with the shore of Wisconsin. The city has a large wholesale trade. Lead, zinc, and limestone are found in paying quantities near by. (Fig. 48.) Dubuque has built some war vessels and boats for the Government, and has railway repair shops. Its manufactures



FIG. 54. Monument to Julien Dubuque, at the city which bears his name.



FIG. 55. One of the most extensive of the many important slaughtering and meat-packing establishments of the Middle West is located at Sioux City.

include lumber, sash, doors, blinds, coffins, clothing, shoes, linseed oil, malt liquors, harness, carriages, wagons, agricultural implements, boilers, hardware, and white enamel. There is also a large meat-packing establishment. (Fig. 53.)

Fairfield (5,009), county seat of Jefferson County, fifty-one miles northwest of Burlington, is a well-built town with excellent railway facilities. The surrounding country produces corn, wheat, oats, hay, fine stock, and dairy products. The manufactures are varied; among them are farm implements, wagons, malleable iron, tile, and gloves. Coal is mined near by. It is the seat of Parsons College.

Fort Dodge (14,369), the county seat of Webster County, is situated on the Des Moines River. Its industries are connected chiefly with the agricultural products of the district of which it is the center. Near by are deposits of gypsum, clay, building stone, and coal. Among its manufactures may be mentioned stucco, brick and tile, stoneware, and hydraulic cement blocks.

Fort Madison (8,767), the county seat of Lee County, is a prosperous town on the Mississippi River. It manufactures lumber, plows, cars, agricultural implements, and chairs. A state penitentiary is located here.

Iowa City (8,459), the county seat of Johnson County, is situated on the Iowa River. It ships large quantities of grain and live stock. Adja-

cent to the city are extensive nurseries. A number of factories are doing a thriving business. Among the manufactured products are agricultural implements, wire fencing, brick, tile, brushes, perfumery, jewelry, and gloves. Here is located the State University. (Fig. 40.)

Keokuk (14,604), the county seat of Lee County, on the Mississippi River at the foot of the rapids, is well fitted by its location to become a city of great commercial importance. The largest river steamers touch its wharves and a government ship canal has been constructed to take boats around the Des Moines River Rapids. The canal is seven and a half miles long and 300 feet wide. The river furnishes valuable water power and Keokuk manufactures machinery, clothing, pickled and canned goods, starch, and shoes. It has a large wholesale trade. A National cemetery is located here.

Le Mars (5,041), county seat of Plymouth County, is twenty-five miles northeast of Sioux City at the junction of two railroads. It is the market town for a fine grain and live-stock district. Among its industrial enterprises are included prosperous flouring mills. It is the seat of Western Union College.

Marion (4,112), county seat of Linn County, six miles northeast of Cedar Rapids, is division headquarters of the Chicago, Milwaukee & St. Paul Railway. It is the market for a fertile



Vast numbers of cattle are received here from farming states and western ranges. The output of packed meats from this industrial plant is enormous.

farming area yielding large crops of grain and much live stock.

Marshalltown (12,045), the county seat of Marshall County, is the trade center for a fine agricultural section. Its manufactures include glucose, starch, linseed oil, machinery, wagons, and buggies. Meat packing is an industry. The Soldiers' Home is located here. (Fig. 44.)

Mason City (8,357), the county seat of Cerro Gordo County, is a railroad center surrounded by fine farms. There are stone quarries in the vicinity. Meat packing is the leading enterprise; lime, brick, tile, and gloves are manufactured. The only Portland cement factory in Iowa is located here.

Missouri Valley (3,330) is situated in Harrison County, twenty miles north of Council Bluffs. Its industrial plants include railroad shops and stock yards. The surrounding country produces grain and live stock, of which large and increasing shipments are made from this point.

Mount Pleasant (3,576) is the county seat of Henry County. Its industrial establishments include planing and flouring mills and factories for house furnishings. Grain is the chief agricultural product of the tributary country, and stock is raised. Mount Pleasant is the seat of Wesleyan University and of the German College. The Hospital for the Insane located here is the oldest in the state.

Muscatine (15,087), the county seat of Muscatine County, is a rapidly growing town on the Mississippi River. Here are one of the largest sash and door factories in the United States and pearl-button factories that give employment to a large number of people. (Fig. 39.) The buttons are made from fresh-water shells. Other manufactures are lumber, cereals, and brick. Market gardening in this vicinity is an important industry, and large quantities of melons and other vegetable products are grown and shipped.

Oelwein (5,632), Fayette County, a prosperous and growing town, and a leading railroad center, is situated in one of the richest farming sections in the state. Its railroad interests are important. The large railroad shops located here do all kinds of repair work and the road makes Oelwein a distributing center of supplies to all parts of its system. It is the market for large quantities of agricultural products.

Oskaloosa (10,203), the county seat of Mahaska County, is situated in the center of a rich coal-mining district. (Fig. 36.) The coal veins in the vicinity are from two to six feet thick. Near the town is clay suitable for paving brick, sewer pipes, and pottery. Manufacturing is increasing. Machinery, brick, and tile are the most important products. Three lines of railroad furnish transportation. Penn College, founded by the Friends, is located here.

Ottumwa (20,181), the county seat of Wapello County, is situated on both sides of the Des Moines River, in the heart of a great coal-mining section. The river here, crossed by two railroads and three iron bridges, furnishes water power for the city's growing manufactures. It has excellent railway facilities. Ottumwa packs meats, manufactures agricultural implements and machinery, and has one of the largest paving-brick kilns in the state. It has excellent schools.

Red Oak (4,907), county seat of Montgomery County, is situated in the heart of a section noted for its large crops of grain and fruit, and for its live stock. Its manufactures include bee hives, brick, tile, water tanks, and mills; a foundry, bridge and iron works, and one of the largest calendar manufactories in the world are located here.

Sioux City (40,952), the county seat of Woodbury County, is ninety-five miles from Council Bluffs and 269 miles from St. Paul and Minneapolis. It is situated where the Big Sioux joins the Missouri, and is the largest city in northwestern Iowa, being the chief center of trade and an important distributing point for that section. It has numerous railroads and two great bridges connecting it with the Nebraska side. Large packing houses, iron works, railway repair shops,



FIG. 56. Okoboji monument, commemorating the Indian uprising of 1857.

clothing manufactories, linseed-oil mills, flour and cereal mills, and brick-yards give employment to many people. (Fig. 55.)

Washington (4,489), the county seat of Washington County, situated in a fine agricultural district, is a leading grain center. Large elevators are located here and three railroads provide the town with good shipping facilities. The manufactures include buggies, wagon boxes, cigars, brick, tile, and weighing machinery.

Waterloo (18,071), the county seat of Black Hawk County, a growing town on the banks of the Cedar River, is in the midst of a rich farming section.

It has good railroad facilities and manufactures flour, gasoline engines, locomotives, furniture, sash, doors, refrigerators, and creamery supplies. It has the largest cheese factory in the state.

Webster City (4,797), the county seat of Hamilton County, is finely located on the Boone River in a fertile district midway between the Mississippi and the Missouri. It is at the junction of three railroads, sixty-nine miles north of Des Moines, and ships cereals, fruit, and fine live stock. The manufactures include boots, shoes, brick, tile, and boilers. In the vicinity are coal mines and mineral springs. It has excellent schools, a fine public library, and a notable hospital.



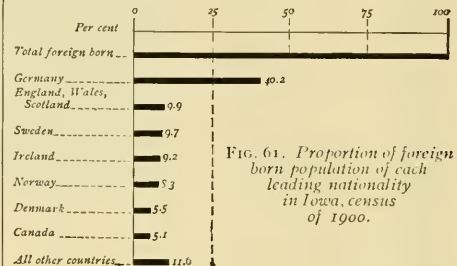
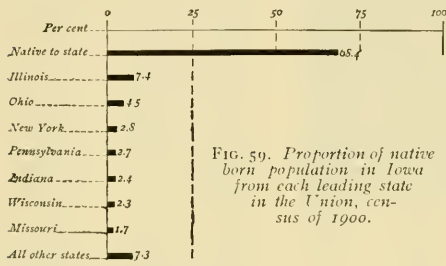
FIG. 57. Bridge over Mississippi River at Davenport.



FIG. 58. A typical scene in an Iowa lumber yard.

Statistics of the State of Iowa by Counties, Federal Census 1900 and 1910—Continued.

COUNTY	ORGANIZATION	AREA	POPULATION			FARM PROPERTY INCL. LIVE STOCK, 1900	FARM PRODUCTS, 1900	MANUFACTURES, 1900	COUNTY SEAT	POPULATION, 1910
			1910	1900	1890					
Story.....	1846	576	24,083	23,150	18,127	\$21,925,024	\$3,311,013	\$666,552	Nevada.....	2,138
Tama.....	1843	720	22,136	24,585	21,051	26,377,051	3,845,577	662,020	Toledo.....	1,026
Taylor.....	1847	540	16,312	18,724	16,384	17,144,601	3,528,861	376,153	Bedford.....	1,881
Union.....	1851	432	16,616	16,028	16,900	13,128,901	1,667,400	879,288	Creston.....	6,024
Van Buren.....	1830	502	15,020	17,354	16,253	12,806,451	1,856,242	177,314	Keosauqua.....	1,000
Wapello.....	1843	412	37,743	35,420	30,420	13,793,252	1,817,884	9,281,773	Ottumwa.....	22,412
Warren.....	1840	576	18,194	20,376	18,269	17,027,616	1,459,066	589,652	Indian.....	3,283
Washington.....	1838	570	19,025	20,718	18,468	21,561,130	2,095,344	660,501	Washington.....	4,880
Wayne.....	1840	528	16,184	17,401	15,070	14,012,770	1,850,592	130,707	Corydon.....	1,669
Webster.....	1851	720	34,620	31,757	21,582	21,664,388	2,706,570	1,813,400	Fort Dodge.....	15,543
Winnebago.....	1851	540	16,312	18,724	16,384	16,702,016	1,459,066	589,652	Forest City.....	1,691
Winneshek.....	1847	671	21,729	23,731	23,528	21,587,626	3,225,513	1,177,607	Decorah.....	3,592
Woodbury.....	1851	864	67,616	54,610	55,632	23,730,287	3,002,855	15,801,180	Sioux City.....	47,828
Worth.....	1851	308	9,950	10,887	9,247	12,381,001	1,666,750	353,300	Northwood.....	1,264
Wright.....	1851	576	17,951	18,227	12,657	18,405,608	2,584,921	261,568	Clarion.....	2,665



State or Country of Birth of the Population of the State of Iowa, State Census 1905.

STATE	NUMBER	COUNTRY	NUMBER
Iowa.....	1,027,754	Germany.....	66,831
Illinois.....	136,644	Sweden.....	15,579
Ohio.....	73,480	Norway.....	12,022
Pennsylvania.....	43,799	Ireland.....	11,025
New York.....	43,212	England.....	10,354
Indiana.....	41,492	Denmark.....	10,007
Wisconsin.....	40,771	Canada.....	7,419
Missouri.....	34,784	Holland.....	5,438
Nebraska.....	16,982	Bohemia.....	4,675
Minnesota.....	13,600	Scotland.....	3,227
Kansas.....	12,575	Austria.....	2,309
Michigan.....	6,408	Switzerland.....	2,291
Virginia.....	8,170	Wales.....	1,462
South Dakota.....	7,836	Russia.....	2,236
Kentucky.....	7,622	Italy.....	1,215
Tennessee.....	5,447	France.....	1,036
Massachusetts.....	4,683	Hungary.....	336
Maryland.....	3,480	Other European Countries.....	577
Texas.....	4,171	China.....	441
West Virginia.....	3,745	Other Asiatic Countries.....	239
Other States.....	3,480	Other Countries.....	239
All Other States.....	36,223	Other Countries.....	1,633

Population of Iowa at Each Federal Census.

YEAR	RELATIVE RANK	PERCENT OF INCREASE	INCREASE IN TEN YEARS	TOTAL POPULATION	DENSITY PER SQ. MILE
1840.....	29	.....	.....	43,112	0.3
1850.....	27	345.8	149,102	102,214	3.5
1860.....	20	251.1	482,699	674,913	12.9
1870.....	11	76.9	519,107	1,194,020	21.5
1880.....	10	36.1	410,595	1,604,615	29.3
1890.....	10	17.7	287,281	1,611,890	34.5
1900.....	10	16.7	319,572	2,231,853	40.2
1910.....	15	0.3*	7,682*	2,224,771	40.0

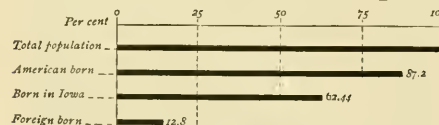


FIG. 60. Proportion of native to foreign born population, state of Iowa, census of 1905.

*Decrease.

Population of Leading Cities and Towns at each Federal Census from 1850 to 1910.

CITY	1910	1900	1890	1880	1870	1860	1850
Des Moines.....	86,368	62,130	50,005	22,468	19,935	3,065	502
Sioux Falls.....	67,928	33,111	37,866	3,491	.....	.....	.....
Davenport.....	43,028	33,254	26,872	21,831	20,208	11,267	1,843
Dubuque.....	38,494	30,207	30,311	22,254	18,434	13,000	3,168
Cedar Rapids.....	32,811	25,656	18,020	10,164	5,040	1,830	.....
Council Bluffs.....	20,299	25,802	21,474	18,063	10,020	2,611	.....
Waterloo.....	29,093	12,580	6,674	5,630	4,337	.....	.....
Clinton.....	25,577	22,608	13,011	9,052	6,120	.....	.....
Burlington.....	24,324	23,201	22,505	16,450	10,936	6,766	4,088
Ottumwa.....	22,022	18,107	14,001	6,004	5,214	1,632	.....
Muscatine.....	16,178	14,073	11,454	8,205	6,718	5,324	2,540
Fort Dodge.....	15,541	12,162	4,871	3,580	3,068	.....	.....
Keokuk.....	14,008	14,641	14,101	17,117	17,760	11,336	2,478
Marshalltown.....	13,374	13,844	8,014	6,240	3,218	.....	.....
Mason City.....	11,239	6,740	4,007	2,510	1,183	.....	.....
Boone.....	10,347	8,880	6,520	3,330	.....	.....	.....
Iowa City.....	10,001	7,687	7,016	7,123	5,034	5,214	1,250
Oskaloosa.....	6,466	6,112	6,558	4,598	3,294	.....	.....
Fort Madison.....	8,000	9,278	7,901	6,479	4,011	2,886	1,509
Centerville.....	6,039	5,250	3,668	2,475	1,037	820	.....
Creston.....	6,024	7,574	7,200	5,681	4,111	.....	.....
Oelwein.....	6,028	5,142	8,349	3,907	.....	.....	.....
Charles City.....	5,892	4,227	2,802	2,421	1,160	.....	.....
Webster City.....	5,208	4,613	2,830	1,848	1,330	.....	.....
Grinnell.....	5,036	3,698	3,330	3,415	1,484	3,092	.....
Cedar Falls.....	5,023	5,319	3,459	3,029	3,679	.....	.....
Shenandoah.....	4,979	3,753	2,440	1,287	.....	.....	.....
Fairfield.....	4,977	4,639	3,391	3,680	2,226	1,602	609
Albia.....	4,900	2,889	2,350	1,435	1,162	.....	.....
Cherokee.....	4,884	3,965	3,441	1,523	438	.....	.....
Red Oak.....	4,830	4,355	3,323	3,755	1,315	.....	.....
Perry.....	4,630	3,000	2,880	952	.....	.....	.....
Albia.....	4,616	3,683	2,504	2,667	1,530	.....	.....
Atlantic.....	4,560	5,040	4,351	3,662	1,200	.....	.....
Marion.....	4,400	4,102	3,094	1,939	1,822	1,367	.....
Washington.....	4,380	4,255	3,235	2,040	2,578	.....	.....
Ames.....	4,223	4,223	2,276	1,152	1,622	427	.....
Le Mars.....	4,157	4,140	4,016	1,895	.....	.....	.....
Glenwood.....	4,053	3,040	1,800	1,793	1,200	614	.....
Mount Pleasant.....	3,874	4,109	3,907	4,401	4,243	.....	.....
Clarinda.....	3,842	3,270	2,202	2,011	1,222	427	.....
Chariton.....	3,794	3,080	3,122	2,077	1,728	641	.....
Decorah.....	3,592	3,240	2,801	2,051	2,110	.....	.....
Maquoketa.....	3,576	3,277	3,077	2,467	1,701	1,001	108
Carroll.....	3,446	2,884	2,468	1,388	1,840	.....	.....
Independence.....	3,571	3,659	3,633	3,428	2,451	1,395	.....

Population of Leading Cities and Towns—Continued.

CITY	1910	1900	1890	1880	1870	1860	1850
Estherville.....	3,404	3,237	1,475	138			
Eagle Grove.....	3,337	3,557	1,881				
Vinton.....	3,316	3,469	2,865	2,006	1,406		
Indianola.....	3,383	3,201	2,254	2,140	1,428	836	
Waverly.....	3,295	3,177	2,346	2,345	2,291		
Knoxville.....	3,190	3,131	2,632	2,577	800	1,174	
Missouri Valley.....	3,187	4,610	2,797	1,154			
Denison.....	3,133	2,771	1,782	1,441	326		
Belle Plaine.....	3,121	3,283	2,623	1,089	1,488		
Pella.....	3,021	2,623	2,408	2,430	1,909	1,644	
Spencer.....	3,095	3,095	1,813	824			
Anamosa.....	2,983	2,801	2,078	2,083	2,083	\$80	
Sheldon.....	2,941	2,282	1,478	730			
Iowa.....	2,908	2,911	2,668	1,359	860		
Winterset.....	2,838	3,030	2,281	1,154	1,485	915	
Awon Falls.....	2,797	2,849	1,790	955			
Manchester.....	2,758	2,887	2,434	2,275	1,492		
Mystic.....	2,663	1,758	875				
Cresco.....	2,658	2,866	2,658	1,975	912		
Hampton.....	2,617	2,727	2,067	1,598	588		
Valley Junction.....	2,573	1,700					
Harlan.....	2,570	2,422	1,765	1,304	128		
Winterset.....	2,524	2,653	957	629			
Jefferson.....	2,477	2,601	1,875	1,444	770		
Osage.....	2,445	2,734	1,913	2,012	1,400		
Storm Lake.....	2,428	2,169	1,682	1,034			
Osceola.....	2,416	2,595	2,120	1,760	1,298		
Emmetsburg.....	2,125	3,391	1,584	879	44		
Tama.....	2,199	2,640	1,741	1,289	1,161		
Seymour.....	2,200	1,793	1,058	501			
New Hampton.....	2,275	2,339	1,744	1,193	1,455		
Stacy City.....	2,201	2,079	1,240	595	150		
Nevada.....	2,138	2,472	1,662	1,541	982	350	
Hawarden.....	2,197	1,819	744				
Clarion.....	2,065	1,475	744		37		
Tipton.....	2,048	2,513	1,909	1,290	1,190	252	
Lake City.....	2,043	2,703	1,500	240			
Monticello.....	2,043	2,104	1,938	1,877	1,337		
Hillsda.....	2,030	2,211	1,744	1,290	1,457		
Sigourney.....	2,032	1,952	1,523	1,735	902	162	
Bloomfield.....	2,028	2,105	1,913	1,531			
Onawa.....	2,026	1,933	1,358	582	478		
Waukon.....	2,025	2,153	1,610	1,250			
Eldon.....	2,024	1,850	1,725	720			
Clear Lake.....	2,014	1,760	1,130	1,095	775		
Rock Rapids.....	2,005	1,766	1,394				

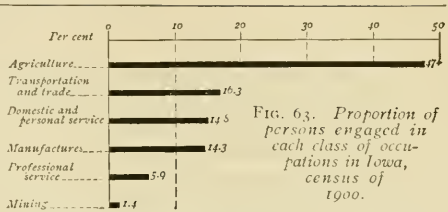


FIG. 63. Proportion of persons engaged in each class of occupations in Iowa, census of 1900.

Leading Manufacturers of the State of Iowa, State Census 1905.

INDUSTRY	NUMBER OF PLANTS	NUMBER OF WAGE EARNERS	AMOUNT OF WAGES PAID	VALUE OF PRODUCTS
Slaughtering and meat packing (wholesale).....	13	3,955	\$1,302,101	\$20,714,737
Butter.....	603	1,122	668,280	14,766,067
Flour and grist mill products.....	276	770	399,168	12,009,493
Printing and publishing.....	1,096	4,266	1,978,161	8,309,019
Book and job.....	135	848	476,814	1,632,151
Newspapers, periodicals.....	991	3,358	1,567,295	6,658,759
Car and shop construction by steam railroad companies.....	40	6,372	3,850,803	7,618,721
Food preparations.....	21	977	337,242	6,044,724
Flanning-mill products.....	79	2,882	1,240,216	5,700,209
Lumber and timber products.....	40	1,935	946,865	5,610,772
Foundry and machine-shop products.....	182	2,612	1,368,413	5,103,676
Bread and bakery products.....	395	1,600	500,410	3,610,967
Brick and tile.....	292	2,632	2,241,590	3,361,776
Cigars and cigarettes.....	449	2,040	838,699	3,187,522
Carriages and wagons.....	97	1,103	528,016	2,074,043
Canning and preserving fruits and vegetables.....	40	1,163	262,512	2,779,804
Malt liquors.....	10	427	269,382	2,366,496
Clothing, men's.....	18	1,170	335,494	1,910,557
Gas, illuminating and heating.....	10	427	269,382	2,366,496
Patent medicines and compounds.....	61	468	253,952	1,835,205
Furniture.....	55	231	89,228	1,803,077
Tobacco.....	35	858	370,217	1,677,405
Tinware.....	3	416	158,180	1,526,041
Coffee, roasting and grinding.....	28	415	92	1,458,937
Confectionery.....	24	688	186,402	1,415,460
Butter, reworking.....	0	78	45,422	1,435,326

The Principal Manufacturing Cities of Iowa and Facts about their Industrial Plants, Federal Census 1900.

CITY	YEAR	NUMBER OF ESTABLISHMENTS	PER CENT OF INCREASE	NUMBER OF WAGE EARNERS	PER CENT OF INCREASE	AMOUNT OF WAGES PAID	PER CENT OF INCREASE	VALUE OF PRODUCTS	PER CENT OF INCREASE
The State.....	1905	4,788	*1.5	49,482	12.2	\$2,997,773	28.3	\$160,664,161	20.8
Burlington.....	1905	109	*12.8	2,014	41.9	17,020,974	80.7	132,011,097	29.9
Cedar Rapids.....	1905	134	59.6	3,260	37.3	1,464,822	48.6	16,279,706	46.2
Clinton.....	1905	81	2.5	2,502	*13.0	1,034,970	9.7	11,135,435	*20.0
Council Bluffs.....	1905	71	*4.0	1,060	78.8	529,994	37.1	1,024,109	13.7
Davenport.....	1905	174	*0.7	3,839	12.8	1,755,850	20.5	1,692,336	38.7
Des Moines.....	1905	201	33.5	4,155	19.4	2,083,200	41.3	15,084,958	73.2
Dubuque.....	1905	161	*3.1	4,74	*8.2	1,474,071	14.2	8,666,405	31.8
Sioux City.....	1905	160	1.0	2,90	*0.6	1,093,455	8.0	6,951,247	*3.8
	1900	123		2,793		1,169,070		14,227,668	

* Decrease.

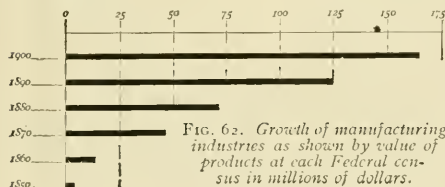


FIG. 62. Value of manufacturing industries as shown by value of products at each Federal census in millions of dollars.

The Value of Iowa Mineral Products, 1870 to 1904.

YEAR	COAL	CLAY	STONE	GYPSUM	LEAD AND ZINC	IRON ORE
1904.....	310,430,460	\$3,897,576	\$34,170	\$169,435	\$ 2,619	....
1903.....	16,430,149	3,033,583	597,065	52,779	367.3	....
1902.....	8,958,774	2,843,501	973,301	337,735	11,478	....
1901.....	8,051,866	2,774,200	794,278	502,500	16,600	\$4,876
1900.....	6,977,466	2,365,428	664,846	393,570	24,794	2,139
1899.....	6,137,876	2,263,728	809,024	609,000	59,542	1,495
1898.....	5,123,187	2,057,222	563,580	....	33,784	....
1897.....	5,098,103	1,591,866	587,144	195,000	5,016	250

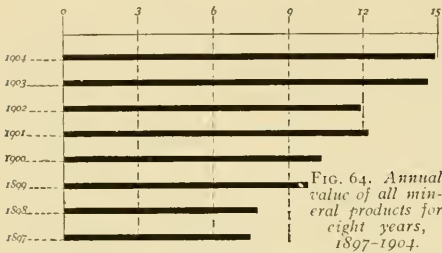


FIG. 64. Annual value of all mineral products for eight years, 1897-1904.

Value of Live Stock Owned in Iowa, Rank of State, and Leading County, Federal Census 1900.

LIVE STOCK	RANK OF STATE	VALUE OF LIVE STOCK	LEADING COUNTY
All domestic animals	1	\$271,844,034	Pottawattamie
Cattle	2	142,518,902	Pottawattamie
Horses	1	77,720,577	Pottawattamie
Hogs	1	43,764,176	Pottawattamie
Sheep	17	3,056,142	Van Buren
Mules	15	3,586,701	Fremont
Bees	8	443,023	Pottawattamie
Goats	6	146,708	Madison
Chickens			Pottawattamie
Turkeys			Kossuth
Ducks	3	9,491,810	Hardin
Geese			Lyon

The Annual Coal Production of Iowa, by Counties (in Short Tons), 1898-1904.

COUNTY	1898	1899	1900	1901	1902	1903	1904
Adams					10,751	22,570	12,650
Appanoose	608,165	636,421	680,004	721,997	909,337	803,021	872,720
Boone	331,543	290,325	266,542	254,054	254,324	291,321	285,157
Dallas	7,097	10,804	16,737	16,987	18,845	15,467	13,086
Davis					3,953	3,160	543
Greene	12,920	17,568	22,921	21,958	246,490	14,071	28,213
Jasper	143,935	101,028	99,048	184,070	233,449	276,894	257,348
Jefferson					10,610	6,844	9,810
Keokuk	251,145	314,050	258,033	398,101	106,163	62,875	44,512
Lucas		32,410					289,805
Mahaska	1,202,787	1,273,473	1,142,017	920,110	723,567	608,166	663,403
Marion	127,293	231,068	180,446	145,981	315,425	324,859	327,518
Monroe	584,578	689,004	755,286	1,038,332	1,406,968	1,768,054	2,061,877
Page					19,070	19,343	18,302
Polk	635,600	749,708	827,482	1,025,014	1,023,860	1,032,104	1,130,668
Scott					10,358	12,653	10,723
Taylor	6,435	19,085	17,150	23,490	14,297	16,933	16,273
Van Buren	6,900	9,385	12,108	12,572	14,816	13,561	8,905
Wapello	249,624	325,029	276,360	312,174	340,762	382,308	302,355
Warren	7,120	34,815	24,774	14,661	20,127	12,700	11,490
Wayne	31,550	62,318	65,143	36,578	65,374	105,179	98,870
Webster	137,548	124,841	123,660	146,020	140,013	138,206	134,588
Other counties and small mines	157,366	171,208	205,338	187,789	4,344	21,867	9,140

Counties Shipping More Than 1,000,000 Pounds (Net) of Butter in the Years Ending September 30, 1904 and 1905.

COUNTY	1904	1905
Woodbury	5,378,214	8,073,201
Polk	3,271,425	5,827,811
Clayton	2,603,436	3,140,763
Bremer	2,109,067	2,795,237
Dubuque	2,176,773	2,590,853
Delaware	2,021,238	2,474,109
Lee	2,293,339	2,404,320
Fayette	603,417	2,390,885
Page	2,022,912	2,365,684
Jones	2,850,641	2,286,310
Chickasaw	1,923,304	2,146,074
Butler	1,579,732	1,954,725
Kossuth	1,359,927	1,620,405
Carroll	1,272,854	1,026,932
Winneschick	1,622,360	1,610,209
Buchanan	1,810,470	1,924,524
Mitchell	1,180,633	1,284,298
Linn	1,366,299	1,605,892
Hardin	1,381,499	1,631,311
Sioux	1,003,287	1,600,576
Jackson	1,399,736	1,543,515
Hamilton	1,158,909	1,470,030
Cerro Gordo	826,556	1,393,355
Black Hawk	1,086,491	1,338,071
Adair	647,744	1,331,358
Audubon	806,438	1,327,357
Union	488,402	1,301,753
Allamakee	1,227,486	1,293,507
Palo Alto	1,033,002	1,084,495
Calhoun	1,015,375	1,079,783
Howard	1,007,681	1,040,955
Grundy	619,833	1,029,803
Buena Vista	841,712	1,006,203
Crawford	895,137	1,004,439

Value of Agricultural Products of Iowa, Relative Rank of State in Production, and Leading County, Federal Census 1900.

CROPS	RANK OF STATE	VALUE OF CROPS	LEADING COUNTY
All crops	2	\$192,286,968	
All cereals	2	147,010,076	
All vegetables	11	7,508,856	
All fruits	11	2,804,574	
Corn	2	97,297,727	Pottawattamie
Oats	2	33,254,687	Cerro Gordo
Hay and forage	3	39,042,246	Wayne
Dairy products	4	47,516,879	Delaware
Wheat	13	11,457,808	Sioux
Eggs	2	10,610,797	Pottawattamie
Barley	4	5,142,364	Lyon
Potatoes	7	3,870,746	Jasper
Orchard products	12	1,840,767	Pottawattamie
Flaxseed	4	1,380,162	Mitchell
Clover and other grass seed	3	1,215,764	Polk
Small fruits	12	878,447	
Nursery products	2	610,002	Page
Rye	8	486,817	Clayton
Honey and wax	7	365,183	Pottawattamie
Onions	11	177,088	Scott
Grapes and products	12	166,360	Pottawattamie

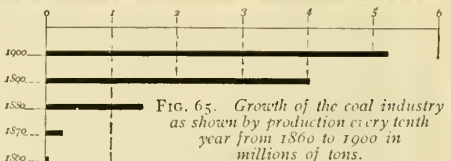


FIG. 65. Growth of the coal industry as shown by production every tenth year from 1860 to 1900 in millions of tons.

The State and Territorial Governors of Iowa from 1838 to 1906.

TERRITORIAL	TERM
Robert Lucas	1838-1841
John Chambers	1841-1845
James Clarke	1845-1849
STATE	
Ansel Briggs	1846-1850
Stephen Hempstead	1850-1854
James W. Grimes	1854-1858
Ralph P. Lowe	1858-1860
Samuel J. Kirkwood	1860-1864
William M. Stone	1864-1868
Samuel Merrill	1868-1872
Cyrus C. Carpenter	1872-1876
Samuel J. Kirkwood	1876-1877
Lieutenant-Governor	
John H. Gear	1877-1878
Buren R. Sherman	1878-1882
William Larrabee	1882-1886
Horace Boies	1886-1890
Frank D. Jackson	1890-1896
Francis M. Drake	1896-1898
Leslie M. Shaw	1898-1902
Albert B. Cummins	1902-

Events in the Early Annals of Iowa.

- 1673—Region discovered by Marquette and Joliet, claimed by France.
- 1680—Hennepin traversed Mississippi River along entire eastern boundary.
- 1702—Le Sueur traversed Mississippi River along entire eastern boundary.
- 1762—Region ceded to Spain by France.
- 1766—Visited by Jonathan Carver of Connecticut, first American to visit region.
- 1770—Beginning of Spanish rule.
- 1788—Arrival of Julien Dubuque, first white settler.
- 1795—Land grant issued by Spanish Governor of Louisiana to Basi Giard; second settlement.
- 1796—Land grant issued by Governor to Julien Dubuque, "Mines of Spain."
- 1799—Land grant issued by Governor to Louis Honoré Tesson; third settlement.
- 1801—Region receded to France by Spain.
- 1803—Louisiana Territory purchased by United States from France.
- 1804—Lewis and Clark expedition; Missouri River explored; first cession of Indian lands to U. S. Government.
- 1805—Pike's expedition, explored Mississippi to its source.
- 1808—Fort Madison erected by Lieut. Alpha Kingsley, named for president; Johnson's trading post set up at site of Burlington.

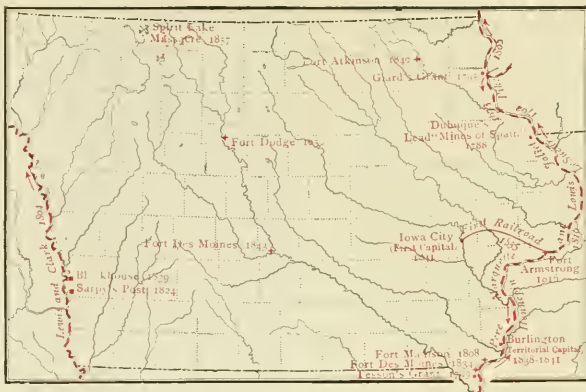


FIG. 66. A map showing the earliest explorations and settlements in Iowa.

- 1815—Treaties of Peace concluded with Sac, Fox, and Sioux Indians.
- 1816—Fort Armstrong erected by General Smith.
- 1819—First steamboat ascended river to Council Bluffs.
- 1820—Cabin built on site of Keokuk by Dr. Samuel C. Muir.
- 1824—Trading post established by Peter Sarpy on Missouri; Half-breed tract set aside by treaty.
- 1825—Boundary lines established between possessions of Sac, Fox, and Sioux Indians.
- 1830—First school established (Berryman Jennings, teacher); first white child born in Iowa (Eleanor Galland).
- 1832—Black Hawk war.
- 1833—"Black Hawk Purchase," ceded by treaty at Davenport.
- 1834—Church built at Dubuque (Methodist) first in territory; Fort Des Moines (first) erected; Half-breed Reservation sold to United States.
- 1835—Captain Nathan Boone's fight with Indians.
- 1836—Wisconsin Territorial Legislature held at Burlington; first newspaper in state, "Dubuque Visitor," published at Dubuque, by John King; first published description of the "Iowa District."
- 1837—Charter granted first bank—the "Miners' Bank of Dubuque."
- 1838—Iowans adopt popular name "Hawkeyes" at suggestion of James E. Edwards, editor "Fort Madison Patriot"; Blockhouse erected at Council Bluffs; Territory of Wisconsin divided and territorial government of Iowa established.
- 1840—Fort Atkinson erected.
- 1841—Territorial government established at Iowa City.
- 1843—Fort Des Moines (second) erected.
- 1844—First constitutional convention held.
- 1846—Iowa admitted as a state; first constitution adopted, and first Governor inaugurated; Mormon settlements.
- 1847—First state census taken, population 116,454; provision made for State University at Iowa City.
- 1849—Great exodus to California.
- 1850—Fort Dodge erected.
- 1852—Last of Mormons emigrated to Utah.
- 1856—First railroad completed; U. S. land grant for building railroad across the state.
- 1857—Capital removed to Des Moines; present constitution adopted; Indian massacre at Okoboji and Spirit lakes.
- 1860-65—Iowa furnished 80,000 volunteers in the Civil War.

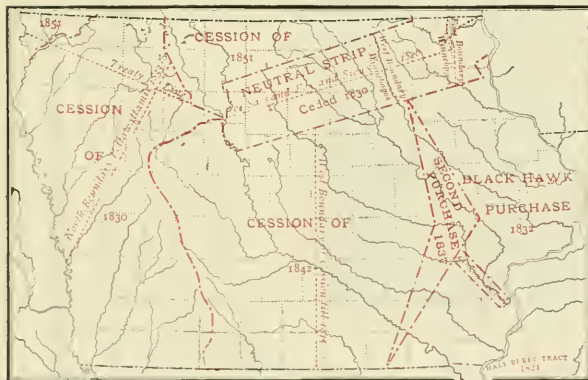


FIG. 67. A map showing accessions of territory from Indians.

Derivation of Some Iowa Geographical Names.

Based largely on Bulletin No. 258, Series F, Geography 45, United States Geological Survey.

Audubon—County. Named for the celebrated ornithologist, John James Audubon.

Black Hawk—County. Named for the famous Indian Warrior.

Bremer—County. Named for Frederika Bremer, the Swedish authoress, who spent some time in that region in 1850.

Buena Vista—County. Named in honor of General Taylor's great victory in the Mexican war; also, probably, because the words mean "beautiful view."

Burlington—Named from the city in Vermont.

Cedar Rapids—Named from rapids on Cedar River.

Cerro Gordo—County. Named from Mexican battlefield. Words mean "large (around) hill."

Cherokee—Named for an Indian tribe. Meaning uncertain.

Clinton—Named for De Witt Clinton, the great "Canal Governor" of New York.

Council Bluffs—So called from a council held near there by Lewis and Clark with the Indians.

Davenport—Named for Col. George Davenport, who explored Cedar River, in 1831, to a point above Rock Creek, where he established a trading post.

Decorah—Named for Winnebago chief *Dechere*, meaning "spoon." One authority gives spelling as *Decorie*.

Des Moines—Name thought to have been derived from Indian word *meiwanng*, meaning "road"; applied by Indians in form of *meiwigona*; contracted to *moins* by French, who called river *Riviere des Moins*. Becoming associated with the Trappist monks, was incorrectly named *La Riviere des Moines* "the river of the monks."

De Soto—Named for Hernando de Soto, the discoverer of the Mississippi River.

Dubuque—Named for French trader, Julien Dubuque, who founded a colony at that point in 1788, calling it the "Mines of Spain," and who maintained there a flourishing colony till his death in 1810.

Epworth—Named from town in Lincolnshire, England, the home of the celebrated Wesley family.

Farragut—Named for Admiral Farragut.

Floyd—County. Named for Sergeant Charles Floyd, a member of the Lewis and Clark exploring party in 1804. Dying while party was in Iowa, was the first white man buried in the state. A monument to his memory and in honor of the Lewis and Clark expedition, was erected at Floyd's Bluff, near Sioux City, in 1901.

Ft. Dodge—Named for General Henry Dodge, governor of Wisconsin Territory, and later United States Senator from Wisconsin.

Fort Madison—Named for James Madison, fourth President of the United States.

Grinnell—Named for Hon. W. H. Grinnell.

Guttenberg—Named for inventor of printing; place first called "Prairie la Porte."

Hawkeye—Named for Indian chief.

Iowa—Named from tribe of Indians, first heard of in 1699 in vicinity of Great Lakes; later occupied lower valley of the



From a lithograph portrait in McKenna's "History of the Indian Tribes of North America" and reproduced by permission of the Chicago Historical Society.

FIG. 68. *Black Hawk, a famous chief of the Sacs and Foxes, born in Kaskaskia, Ill., 1766, died in Iowa, 1838.*

Odebolt—Town in Sac County. Corrupted from Odebeau, the name of a French trapper, who lived alone on the banks of the creek flowing through the town.

Orange City—Town in Sioux County, center of large settlement of Hollanders. Named for William IV, Prince of Orange.

Osage—Township and city in Mitchell County. Named for Orrin Osage.

Oseola—County. Named either directly or indirectly for the Seminole Indian chief. The name refers to a medicine drink used by the tribes in certain ceremonies.

Oskaloosa—Named for the wife of the Indian chief Mahaska.

Ottumwa—An Indian word said to mean "place of the lone chief," but more probably meaning "rapids" or "tumbling water."

Owassa—Derived from "owasse," the Indian word for "bear."

Page—County. Named for Colonel Page of Palo Alto fame.

Palo Alto—County. Named from the famous battlefield in Texas.

Pella—Town colonized by Dutch settlers, to whom the word meant "city of refuge."

Peoshta—Village in Dubuque County. An Indian word meaning "gorge in the rocks."

Pottawattamie—County. Named for the Indian tribe. Word means "makers of fire," and was used to signify that this tribe assumed separate sovereignty by building a council fire themselves.

Poweshiek—County. Named for a chief of the Fox tribe. Name signified "Roused Bear."

Pringhar—Town in O'Brien County. Named by combining the initials of the persons present at the laying of the corner stone.

Redfield—Named for Colonel Redfield.

Red Oak—So named from a near-by grove of trees of this species.



From the oil painting by Charles Willson Peale, now (1917) in Independence Hall.

FIG. 69. *General Zebulon Montgomery Pike, soldier and explorer, widely known as the discoverer of Pikes Peak.*

Ringgold—County. Named for Major Samuel Ringgold, officer of the Mexican war.

Rippey—Town in Greene County, named for Captain C. M. Rippey, an old settler.

Sac City—Named for an Indian tribe. Word refers to "yellow earth," proper form being "Osaukee."

Scott—County. Named for General Winfield Scott.

Shenandoah—An Indian word said to mean "spruce stream."

Sigourney—Named for the poetess, Mrs. Lydia H. Sigourney.

Sioux City—So named from the Dakota or Sioux Indians of Dakota and Minnesota, the largest tribe in the United States. Word an abbreviation of their Ojibway name, signifying "little snakes," i. e., "enemies."

Skunk—River in Iowa. A translation of the Indian name "checauqua."

Spirit Lake—Indian name was Minne-Mecoche-Waukon, "Lake of the Spirits," from the tradition that there were demons on an island in the lake that destroyed all who ventured first upon its waters.

Steamboat Rock—So named because there is a large rock in the river near the town which resembles a steamboat in form.

Stuart—Named for Captain Charles Stuart of Vermont.

Tama—County. Named for Fox chief, Taimah, "the man who makes the rocks tremble."



From a copy of a fine steel engraving, the frontispiece in *Carver's Travels*, London editions of 1778 and 1781.

FIG. 70. *Jonathan Carver, traveler and writer. First American to visit Iowa. Born in Stillwater, Conn., 1732, died in England, 1780.*

Titonka—Village in Kossuth County. A Sioux Indian word meaning "big house."

Van Buren—County. Named for Martin Van Buren, President of the United States.

Vinton—Township and city in Benton County, named for Hon. Plym Vinton.

Volney—Named for Count Volney, the French writer.

Wapello—Named for Indian chief of the Fox tribe. Meaning of word "prince."

Wapsipicon—River. So named because of the root which is found in great abundance upon its banks. Indian word said to mean "white potatoes."

Warren—County. Named for Joseph Warren, who fell in the Battle of Bunker Hill.

Washta—Town in Cherokee County. From a Sioux Indian word meaning "good."

Waubek—Town in Linn County. From an Indian word meaning "metal" or "metallic substance."

Waukon—An Indian word meaning "moss on trees that is eatable."

Wayne—County. Named for General Anthony Wayne, hero of the Revolution.

What Cheer—So named by a Scotch miner when he discovered coal in the vicinity.

White Cloud—Town in Mills County. Named for the Indian chief, Mahaska.

Whiting—Town in Monona County. Named for Senator Whiting.

Woodbury—County. Named for Levi Woodbury of New Hampshire.

SUGGESTIVE QUESTIONS TO ACCOMPANY THE GEOGRAPHY OF IOWA

(1) Find out the approximate distances of New York, Charleston, and New Orleans from Iowa, and explain their relative importance as seaports for Iowa products. (2) What are the approximate distances of Los Angeles and Seattle from Iowa? Which is the more convenient for Iowa exports, and why? (3) Where does the watershed of Hudson Bay lie nearest to Iowa? That of the Great Lakes? The great continental watershed? (4) Find out which European country is nearest to Iowa in area. How do Iowa and Cuba compare in this respect? (5) Trace the Mississippi-Missouri watershed on Fig. 8; notice that it does not follow the highest elevation near the northern border, and explain how this is possible. (6) What is meant by a "bluff"? By a "palisade"? (7) What is meant by the statement that bluffs give "scenic interest" to northeastern Iowa? What "scenic interest" might exist in a level prairie region? (8) Explain the meaning of the heavy shading along various streams in Fig. 4. (9) How much of the Mississippi River is wholly within the limits of Iowa? (10) Why is it said that the streams with large basins are likely to have better water power than those with small? (11) Why are there no waterfalls along the high banks of the Missouri River? (12) Describe the topography of surface and streams in your vicinity. (13) Suggest some reason besides the presence of trees for the settlement of Iowa pioneers along the

ridges. (14) In what sense are the Iowa lakes part of the Minnesota lake system? (15) Explain more fully why the term "drift lakes" is applied to those formed in the glacial period. (16) After examining Fig. 11 explain how the soil of Clayton, Dubuque, and Jackson counties may have been formed. (17) Name various conditions which in other states make large areas unutilized, but in Iowa are almost or wholly lacking. (18) Find out something of the distinction between Iowa, Wisconsin, and Kansas drift as shown in Fig. 11. (19) What do well borings indicate as to depth of the drift in your vicinity? (20) What evidence can you find in Fig. 12 supporting the assertion that south winds bring rain? (21) Judging from Fig. 12, which counties would seem to need irrigation methods most? (22) Why are the winds from the west drier than those from the south? (23) From the statements made about climate would you expect the greater number of sunny days to be in the winter or in the spring? (24) Explain in connection with page 8 why Arbor Day is especially significant in Iowa. (25) What is the state flower of Iowa? Why is it appropriate? (26) In what way did the treeless condition of the country favor the early settlement of Iowa? (27) What varieties of trees grow in your vicinity? Is the woodland a natural growth or the result of planting? (28) Does the heavy shading in Fig. 15 necessarily imply more productive soil in those

counties? Suggest any other causes that you think might account for such shading (29) In Fig. 17, Lyon County seems an unproductive area. Can you refute this idea with any other maps? (30) Why does not cotton form one of the crops of Iowa? Name some other great American crops not grown largely in Iowa, and tell why (31) Suggest some reason why Lee County shows a light shading in Fig. 19. What do Figs. 23, 25, and 30 indicate as to this county? (32) What are the principal farm products shipped from the railroad station in your vicinity? Where are they marketed? (33) Name several different occupations which would be grouped under "agriculture" in Fig. 63. (34) Find out why wheat should be produced most heavily where shown in Fig. 21, and why oats should lead in a different area, shown in Fig. 23. (35) What conclusion might be drawn by comparing Figs. 21 and 23 with Fig. 12? (36) What conclusion might be drawn from comparison of northern Iowa in Fig. 28 with the same region in Fig. 12? (37) What conclusions may be drawn from comparing Fig. 30 with Fig. 12? (38) In some states the varying elevation of the surface produces variations in the farm products. How is it in Iowa? Upon what do you base your reply? (39) How do you reconcile the facts that Kossuth County is one of the heavily shaded parts in Fig. 30, and one of the lightly shaded areas in Fig. 28? (40) Why is the presence of mineral resources reckoned as an advantage to the state possessing them? Do the profits from such resources always flow into the state? (41) Why are the coal mines most worked along the Des Moines River when there is so large an area elsewhere that is known to be underlain by coal? (42) Explain the significance of Fig. 59. (43) What is the character of gypsum in its natural state? What is done to it as preparation for the market? (44) What is the difference between clay and shale? (45) What importance have zinc and lead mines in Iowa? (46) What suggestion has Fig. 35 as to the best part of the state in which to locate a factory? (47) To what extent is Iowa able to supply material to its flouring mills? Its meat packing plants? Its foundries? Its lumber mills? Its printing houses? Its clothing establishments? (48) What is meant by pearl buttons? By pearl barley? (49) Which has increased more rapidly since 1860, coal production as shown in Fig. 65, or manufactures as shown in Fig. 62? (50) What merchandise makes up the interstate traffic of Iowa toward the westward? How does it differ from the eastward traffic? (51) What relation is there between the topography of Iowa and the amount of railroad mileage? Compare with Missouri and Minnesota. (52) What significance in connection with commerce attaches to the presence of railroad trunk lines within the state? (53) What is meant by calling Iowa the "first free state"? (54) During what years was French the customary language of Iowa? (55) Why

does not a French element appear in Fig. 61? (56) Why were wagons used to bring the earlier settlers to Iowa? What is meant by calling them "white-topped"? (57) Explain what is meant by the Indian cessions shown in Fig. 67. (58) Find out if the Tama County Indians retain the characteristics of savage life. (59) What is meant by a "communitistic" settlement? (60) Why are not the southern states represented in Fig. 60? (61) In what manner does the permanent school fund help public education? Does your own school profit in any way by the existence of this fund? (62) What is the purpose of a normal school? (63) Explain why the institutions shown in Fig. 41 are mostly in the eastern half of the state. (64) Explain what is meant by "reformatory" institutions: by "penal." (65) What advantages are secured by creating special schools for the blind and the deaf? By hospitals for the insane? (66) Name some of the powers of the Board of Control over the state institutions. Explain the peculiar provision in regard to political parties being represented in the Board. (67) What is meant by the "electoral votes" of the state? (68) Why is it desirable to have a legislative branch of the state government? Could the state be governed without a legislature? (69) Mention some example of the exercise of authority by the legislature. (70) Could the state be governed without an executive branch of government? Give reasons for your reply. (71) Give an example of an exercise of authority by the executive part of the state government; by the judicial branch. (72) In what way may a "special charter" make a difference in the way in which city government is carried on? (73) Why are some of the districts in Fig. 47 much larger than others? (74) Compare Iowa with Missouri as to the evenness of distribution of population; with Nebraska. Show why differences exist. (75) Explain why Illinois and New York have great metropolitan centers, and compare them with Iowa. (76) What significance do you attach to the fact that Fig. 50 shows the larger towns all located upon the larger rivers? (77) Why is it an advantage to Atlantic to be a county seat? (78) What line of industry is meant by the reference to railway shops at Boone? (79) What is the advantage to a town like Burlington in being located directly upon the Mississippi River? (80) What farm crops supply material for the industries of Cedar Falls? Of Cedar Rapids? (81) What is the raw material used in making the cement blocks of Centerville? (82) What is meant by the "market gardening" done at Charles City? (83) Ascertain if Clinton is located upon a "trunk line" of railroad, and state whether such location would help a city, and how. (84) Explain what advantages accrue to a town by being located close to a much larger city, as is Council Bluffs. (85) What is meant by a "round house," and in what way does Creston profit by having one? (86) From what raw material is the glucose

made at Davenport, and how is this product used? (87) In what way does Des Moines profit by being capital of the state? (88) What is meant by "wholesale trade," mentioned as carried on at Dubuque? How does it help a town? (89) Judging from the crops raised around Fairfield, what additional industries would be appropriate to the town? (90) Are Fort Dodge and Fort Madison military centers? If not, consult Fig. 66, and tell why they are called by these names. (91) Why is the university at Iowa City called a "state university," and in what respect does it differ from other universities in Iowa? (92) Explain how the building of a ship canal at Keokuk can be an advantage to the city. What is meant by a "national cemetery"? (93) What is meant by the phrase "market town," attached to Le Mars? (94) Explain how Marion is helped by being divisional headquarters of a railway. (95) From what raw materials are the starch and linseed oil of Marshalltown made? (96) In what way does the presence of stone quarries, as at Mason City, help a town? (97) What is meant by "stock yards" mentioned as located at Missouri Valley? (98) What industry of Mount

Pleasant is particularly dependent upon the annual wheat crop? (99) Why is Muscatine a favorable location for pearl button factories? (100) Tell if you can what is meant by saying that Oelwein is a "railroad center," and explain why such centers are desirable locations for factories. (101) Oskaloosa has mineral wealth of both coal and clay. Which of these is the more important to the town, and why? (102) What is meant by a "paving-brick kiln" such as is located at Ottumwa? (103) What kinds of fruits would you expect to be shipped in quantity from Red Oak? (104) Suggest a reason why large meat packing plants are more likely to be found at western points like Sioux City than in eastern Iowa. (105) What is meant by "elevators," referred to as located at Washington? (106) Find in Fig. 30 some reason why the cheese factories of Waterloo should be successful. (107) In what way can mineral springs, such as exist at Webster City, help a town? (108) Draw an outline map of Iowa and locate the principal physical features and leading cities and towns. (109) Draw a similar map of the states of the northwestern section of the Mississippi Basin.

SUGGESTIONS FOR COLLATERAL READING

Adams, *Iowa Band*.

Aldrich, *Annals of Iowa*, Third Series, vols. 1 to date.

Andrea, *Historical Atlas of Iowa*.

Beyer, *Geology of Boone, Marshall, Story, and Hardin Counties*.

Brown, *Iowa, the Promised of the Prophets*.

Burkett, Stevens, and Hill, *Agriculture for Beginners*.

Burrows, *Fifty Years in Iowa*.

Byers, *Iowa in War Times*.

Calvin, *Iowan Drift*.

Aftonian Gravels.

Notes on Geological Section.

What the Glacier Did for Iowa Soils.

Chandler, *Geography of Iowa*.

Clarkson, *Des Moines, Iowa*.

Cousins, *Iowa and the Empire of the Pioneers*.

Drake, *Life of Black Hawk*.

Ebersole, *Encyclopedia of Iowa Law*.

Eihoeck, *Die Deutschen von Iowa*.

Fairall, *Manual of Iowa Politics*.

Fulton, *Red Men of Iowa*.

Fulton, *Sketches of Iowa Counties*.

Galland, *Iowa Emigrant of 1840*.

Gue, *History of Iowa*, 4 vols.

Horack, *Constitutional Amendments in the Commonwealth of Iowa*.

Hussey, *History of Steamboating on the Iowa River*.

Hyatt, *Manufacturing, Agriculture, and Industrial Resources of Iowa*.

Ingersoll, *Iowa and the Rebellion*.

Iowa Geological Survey, *Reports*.

Iowa State College, Experiment Station, Soil Section, *Bulletins*.

Lea, *Notes on Wisconsin Territory: The Iowa District or Black Hawk Purchase (1836)*.

Macy-Geiser, *Government of Iowa*

Monette, *History and Discovery of the Mississippi Valley*.

Newhall, *Glimpse of Iowa in 1846*.

Norton, *Elements of Geology*.

Parker L. F., *Higher Education in Iowa*.

Parker N., *Iowa as it is in 1855*.

Iowa Handbook for 1856.

Iowa Handbook for 1857.

Pinkerton, *Buckeye Hawkeye Schoolmaster*.

Sabin, *Making of Iowa*.

Salter, *Iowa the First Free State in the Louisiana Purchase*.

Shambaugh, *Documentary Material Relating to the History of Iowa*.

Shambaugh, *History of the Constitution of Iowa*.

Iowa City: A Contribution to the Early History of Iowa.

Sharpe, *History of the Spirit Lake Massacre*.

Smith, *History of Dickinson County*.

State Historical Society, *Annals of Iowa*.

Stuart, *Iowa Colonels and Regiments*.

Weaver, *Iowa Constitution and Law*.

Wilkie, *Davenport, Past and Present (1850)*.

Williams, *Historical Sketches of Northwestern Iowa*.

Williams and Keyes, *Check List of Iowa Birds*.

THE INDEX

The figures inclosed in parentheses refer to illustrations, all other figures refer to pages; heavier type is used for the more important references.

- Agricultural products, 6, x.**
Agriculture, 6; (Fig. 93), ix.
Alluvial lakes, 6.
Alluvial soil, 6.
Amama Colony, 14.
Areas, 16.
Anamosa, 17.
Area, 1.
Atlantic, 10.
Attorney-General, 17.
Auditor of State, 17.
- Barley, 9;** value of crop, rank of state in production, and leading county, x.
Big Sioux River, 4.
Black Hawk, Portrait of (Fig. 68), xii.
Black Hawk War, 14.
Blinds, College for, 16.
Bluffs along Mississippi and Missouri, 1.
Bluffs at Dubuque, views of (Fig. 48), 18, 18.
Boone, 10.
Boyer River, 4.
Burlington, 5, 12, 10.
- Campanile, Agricultural College** (Fig. 46), 18.
Carver, Jonathan, Portrait of (Fig. 70), xii.
Cattle, 9; neat, number of (Fig. 28), 12; owned in Iowa, value of, x.
Cedar Falls, 16, 20.
Cedar Rapids, 18, 20.
Cedar River, 4, 20.
Cedar River, forest-clad palisades of (Fig. 5), 4.
Centerville, 20.
Cereal Mills at Cedar Rapids (Fig. 37), 15.
Charles City, 20.
Charles City College, 20.
Cherokee, 17.
Cities, growth and development of, 10-24; population of, ix.
Clarinda, 17.
Clay, 11, 22, 23; products, value of, ix.
Climate, 7.
Climatic position, 7.
Clinton, 12, 13, 20.
- Coal, 10, 23, 24;** measures, section of upper (Fig. 31), 13; miners working in interior of mine (Fig. 32), 14; fields of Iowa and production by counties (Fig. 33), 14; mining scene near Oskaloosa (Fig. 36), 14; products, value of, ix; production, annual, by counties, x; industry, growth of (Fig. 65), x.
Coe College, 20.
College of Agriculture and Mechanic Arts, 16; 18; central building of (Fig. 43), 17; Campanile (Fig. 46), 18.
Commerce, 13.
Congressional Districts, map of (Fig. 47), 18.
Corn, 9; an Iowa field after cutting (Fig. 2), 11; cutting in Linn County (Fig. 18), 9; yield of (Fig. 10), 9; value of crop, rank of state in production, and leading county, x.
Council Bluffs, 5, 12, 13, 16, 18, 20; view of (Fig. 52), 20.
Creston, 21.
- Dairy products, 9;** value of by counties (Fig. 30), 12; value of rank of state in production, and leading county, x.
- Davenport, 12, 13, 17, 18, 21.**
Deed, School for, 16.
Des Moines, 5, 12, 13, 14, 17, 21; State Capitol (Fig. 45), 18.
Des Moines College, 21.
Des Moines River, 4, 10, 10, 21, 22, 24.
Divide, 4.
Drainage, 1.
Drake University, 21.
Drift, 6.
Drought, 7.
Dubuque, 5, 7, 11, 12, 14, 18, 21; bird's-eye view of (Fig. 53), 21.
Dubuque, Julien, 14; monument to (Fig. 54), 21.
- Education, 15.**
Educational Institutions, leading (Fig. 47), 16.
Eldora, 17.
Elevation, average, 1.
Executive Council, 17.
- Fairfield, 22.**
Farmings, population engaged in, 0.
Farm products, 8, 9; value of (Fig. 15), 8; rank of state in production and leading county, x.
Feeble-minded Institution for, 16.
Flax, 9; value of crop, rank of state in production, and leading county, x.
Floyd River, 4.
Fort Dodge, 10, 11, 22.
Fort Madison, 5, 17, 22.
Fruit, 10.
- Geographical names of Iowa. Derivation of some, xii.**
German College, 23.
Glencrow, 17.
Government, 17.
Governor, 16, 17, 18; state and territorial governors from 1838 to 1906, xi.
Grasses, 8.
Gypsum, 10, 11, 22; value of product, ix.
- Hay, 9;** cutting and hauling near Ottumwa (Fig. 16), 8; production of (Fig. 17), 8; value of crop, rank of state, and leading county, x.
Highland Park Normal College, 21.
History, 13; events in the early annals of Iowa, xi; map showing earliest explorations and settlements, xi.
Hogs, 9; feeding time (Fig. 24), 11; number of (Fig. 25), 11; value of Iowa, rank of state, and leading county, x.
Horses, 9.
- Independence, 17.**
Indian Affairs, map showing accessions of territory from, xi.
Indian Massacre at Spirit Lake, 14; monument (Fig. 56), 24.
Insane, Hospitals for, 17, 23.
Iowa City, 5, 14, 15, 22.
Iowa River, 4.
Iowa River, near Iowa City, view of (Fig. 6), 4.
Iron ore, 11; products, value of, ix.
Keokuk, 5, 18, 22.
- Lakes, 5;** drift, 5; walled, 5, glacial, 5; alluvial or oxbow, 6.
Lead and zinc, 14, 21; products, value of, ix.
Le Mars, 22.
Lieutenant-Governor, 17.
- Limestone, 6, 11, 21.**
Little Sioux River, 4.
Live stock, 0; owned in Iowa, value of, x.
Loess, 6; typical farm scene in Des Moines region (Fig. 10), 6.
Lumber and timber, 12; value of product, ix.
Lumber yard, typical scene in an Iowa (Fig. 58), 24.
- Manufactures, proportion of persons engaged in** (Fig. 63), ix; leading, in state, ix.
Manufacturing, 11, 12, 13; cities, principal, and facts about their plants, ix; industries, growth of (Fig. 62), ix; (Fig. 63), ix.
Maquoketa River, 4.
Marion, 22.
Marshalltown, 16; State Soldiers' Home (Fig. 44), 17, 23.
Mason City, 23.
Mineral products, value of, 1807 to 1904, ix; annual value of (Fig. 64), x.
Mineral resources, 10-11; section of upper coal measures (Fig. 31), 13; quarrying stone (Fig. 32), 13; deposits of shale clays (Fig. 33), 13.
Mississippi River, 4, 13, 20, 21, 22, 23; steamboat on (Fig. 38), 15; bridge at Davenport (Fig. 57), 24.
Missouri River, 1, 2, 4, 20, 24.
Missouri Valley, 23.
Mitchellville, 17.
Mount Pleasant, 17, 23.
Muscatine, 13, 18, 23.
- Nishnabotna River, 1.**
- Oats, 9;** field after reaping and shocking (Fig. 22), 10; yield of (Fig. 23), 10; stacked ready for threshing (Fig. 26), 11; value of crop, rank of state in production, and leading county, x.
Ocheydan Mound, 1.
Oelwein, 23.
Okoboji Lake, 5; view of (Fig. 9), 5.
Orchards, 6.
Orchard scene in southern Iowa (Fig. 27), 11.
Oskaloosa, 23.
Ottumwa, 24.
- Parsons College, 22;** scene in a factory at Muscatine (Fig. 30), 15, 20, 23.
Penitentiaries, State, 17.
Penn College, 23.
Physical map (Fig. 8), 5.
Pike, General Z. M., Portrait of (Fig. 60), xii.
Political map (Fig. 3), 2, 3.
Population, 10; density of (Fig. 40), 10; density of urban (Fig. 59), 10; of the state by counties, vii, viii; of leading cities and towns, viii, ix.
Position, 1.
Potatoes, 9; value of crop, rank of state in production, and leading county, x.
Poultry, 9; owned in Iowa, value of, ix.
- Railroads, 13.**
Rainfall, 7; mean annual, of Iowa (Fig. 12), 7; annual, at Dubuque (Fig. 13), 7; annual, at Sioux City (Fig. 14), 7.
- Red Oak, 24.**
Reformatory and Penal Institutions, 17.
Reformatory for Females, 17.
Relief map of Iowa (Fig. 4), 4.
River valleys, 4.
Rock flour, 6.
Rye, 9; value of crop, rank of state in production, and leading county, x.
- Sac and Fox Indians, 14.**
Secretary of State, 17.
Shale, 11; clays, deposits of, on Gray Creek in Monroe County (Fig. 33), 13.
Shape, 1.
Sheep, 9; feeding in a farm yard (Fig. 29), 12; owned in Iowa, value of, x.
Silver Lake, 5.
Sioux City, 7, 12, 13, 24.
Size, 1.
Skunk River, 4.
Slaughtering and meat packing, 12, 20, 21, 22, 23, 24; view of plant at Sioux City (Fig. 55), 22, 23; number of plants and value of products, ix.
- Soil map** (Fig. 11), 6.
Soldiers' Home, State, 16; view of (Fig. 44), 17.
Soldiers' Orphans' Home, 17; view of (Fig. 51), 20.
Spirit Lake, 5; Indian massacre at, 14; view of (Fig. 7), 5.
State Board of Control, 17, 18.
State Capitol (Fig. 45), 18.
State Charities, 16.
State Institutions, 16.
State Normal School, 16, 18, 20; view of (Fig. 42), 17.
Stock farm in Story County, scene on a (Fig. 1), 1.
Stock raising, 9; rank of state and leading county, x.
State University, 15, 16, 18, 22; Liberal Arts Building (Fig. 40), 16.
- Stone, 11;** quarrying near Stone City (Fig. 32), 13; products, value of, ix.
Storm Lake, 8.
Superintendent of Public Instruction, 17.
Surface, 1.
Swan Lake, 5.
- Temperature, 7.**
Treasurer of State, 17.
Turkey River, 4.
- Upper Iowa River, 4.**
- Vegetation, 8.**
Vineyards, 6.
Vinton, 16.
- Wappiniconn River, 4.**
Washington, 24.
Waterloo, 24.
Waverly, 12.
Webster City, 24.
Webster University, 23.
Western Union College, 22.
Wheat, raising in Leon County (Fig. 20), 9; yield of (Fig. 21), 10; value of crop, rank of state in production, and leading county, x.
Wild flowers, 8.
Wind-breaks, 8.
Winds, 7.
- Zinc, 11, 21;** products, value of, ix.

